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ORIGINAL ARTICLES.

SPASMODIC NEUROSES, AND THEIR SCIENTIFIC TREATMENT.

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The spasmodic neuroses are usually considered functional disorders, mainly because their real causes have not been recognized as consisting in some organic change. Because such changes have not been revealed by post mortem research, or, if perceived, their true significance has been underrated, is no real reason why such neurotic states should be placed under the head of functional disease. It seems that all forms of disease where organic changes are not apparent after death should be placed under a head of "etiology unknown," in order that investigation into their causes may be stimulated.

There are many reasons for the belief that the root of the trouble in these disorders lies in the central nervous system. To me it seems that spasmodic neuroses have their origin in alterations of function of central nerve cells, through overnutrition of the cells from an excessive supply of blood circulating within the same; and that while in many cases the microscope may show no serious lesion of the cells, yet the disease is really organic and not functional, so long as a greater supply of blood is passing through the central cells than is required for their normal activities. A good example is that of spasmodic tic, or wry neck, and how hopeless treatment of any kind very frequently is, as the patient progresses down hill for

perhaps many years, until tonic spasm takes the place of clonic, pain is added as a factor, the last condition of the patient being most pitiable.

Such progression seems to show that the causal factor, whatever it may be, is more deeply implicated in the course of time than at first, and that the conditions inducing the trouble and the parts themselves are more deeply involved than at the inception. Such a history seems to mean organic and not functional disease. If one can find the cause of such disease, it is easier to prescribe an effective remedy. To relax the muscles and check the tendency to contraction is of course the aim of the practitioner. Arsenic has relieved some cases, galvanism others; opium has occasionally given good results, and conium with its muscle relaxing power has been tried, but none of these remedies can be certainly counted upon to attain relief. Section of the nerves, and counter irritation have been tried, with varying results.

It has been my experience for sixteen years that cold over the spine will subdue the majority of spasmodic muscular contractions, and restore complete use of the muscles. If so, then the seat of disease lies in nerve centers, and the cause is too great a circulation of the blood within the centers affected, for the reason that hy-

peremia of any tissue, gland, organ or cell will, while it lasts, increase the function, because the blood carries nutrition to the whole organism. In spasmodic muscular action the central motor nerve cells must be hyperemic, because the function of the nerve is so increased that abnormal muscular contraction takes place. This is further proven clinically from the fact that cold over the centers will overcome the attacks, and cure the patient.

In other spasmodic disorders, the pathologic appearances of the spinal cord demonstrate congestion, and dilated blood vessels during life denote a condition denoting organic, and not functional, disease. Chronically dilated blood vessels in other parts of the system always denote organic, and not functional, changes, a very simple and expressive example being seen in *acne rosacea*. What reason can be given for the belief that a chronic congestion of nerve centers does not involve the same result? It certainly does in the vessels, if not yet discoverable in the nerve center, and the function of the center is increased by this condition of the circulation.

A very simple illustration of this may be seen in any nervous person subject to more or less spasmodic tic. In repose the muscles are quiet, but if there come a sudden shock of unpleasant character, the surface of the body will become cold, thus forcing the blood in excess into the internal organs and the spinal cord, and the result is at once a renewal of the accustomed twitching, due apparently to the sudden flush of blood to the already dilated arteries in the motor nerve centers. A sudden shock to nervous people always induces coldness of the body, and this lowering of the temperature is caused by the vaso-constrictors or the sympathetic ganglia becoming very active in function; the shock to the mind or heart being at once reflected upon these ganglia, inducing dilation of the arterioles within them, and stimulation of their function.

In nearly all cases of spasmodic wry neck of any degree of severity, the general nutrition of the body is, or soon becomes, poor, and the further indication for treatment is to introduce an agent which will stimulate all metabolic processes to activity. The best agent we know of for this purpose is oxygen by inhalation, for the

reason that oxygen, when pure and properly combined with a gas of lighter specific gravity, is easily and freely absorbed by the pulmonary capillaries, and carried to every tissue cell within the body, stimulating with rapidity the activity of the cells, so that molecular changes are increased, and the nutrition of the body rapidly augmented. This is proven from the fact that when oxygen is regularly inhaled in low conditions of the system, in a few days the appetite begins to improve; and this effect could not be induced were it not for increase in tissue metamorphosis, giving rise to sensations of hunger. The use of oxygen increases the number of the red corpuscles in the blood, stimulates the heart, and gives tone to the arteries, and aids in the assimilation of the food.

The function spasms spoken of by Fagge, called "functional spasms" by Weir Mitchell, in which the spasms are increased by voluntary movement, seem undoubtedly due to a hyperemic condition of the sets of motor centers controlling the affected parts; and this view is in a measure corroborated by Fagge, (page 622) where he remarks: "Dr Gowers is no doubt right in thinking that the movements are due to the combined and simultaneous action of peripheral and voluntary stimuli upon irritable centers in the cord." These centers are in a state of hyperemia, therefore their function is above normal, and abnormal action is easily excited in the affected muscles by mental or bodily stimuli.

Since the majority of these cases are affected in the muscles which are in most constant use by the individual, as in writer's cramp, in the milkmaid's hand, the squatting muscles of the tailor, etc., it seems not unreasonable to believe that overuse is responsible for the congestion and irritability of the centers involved; nature endeavoring by increased supplies of blood to spur the exhausted nerve cells to continued effort. But the result is the same as in the overtrained muscles of the athlete; function is decreased instead of amplified, and abnormal activity with decrease of natural strength, follows; in other words, the centers become "stale," from overstimulation.

The fact that sufferers from writer's cramp are highly irritable and excitable denotes a general redundancy of action of

the vaso-constrictors or sympathetic ganglia, a contracted condition of the systemic arteries, and a bad nutrition of the organism; the indications for treatment therefore, are to relieve the nerve centers in general from their superabundance of blood, to distribute this local excess throughout the body in active circulation, thus strengthening muscles, organs and tissues, and to supply the patient with a full measure of life-giving oxygen. This may be done by using cold over the spinal cord, in conjunction with the inhalation of oxygen.

I believe with Reynolds and Erb, that "the seat of the lesion in writer's cramp, lies in the central ganglia which effect the association and co-ordination of muscular movements for the more complex actions. The nutrition of these structures is supposed to be impaired as the result of over-exertion; and the consequence is a perversion of their functions which expresses itself in irregular spasmodic movements and in the other symptoms of the disease. A strong point in favor of this view is the fact that when one arm has been affected the other is often afterwards attacked; and the relation which writer's cramp bears to torticollis and other spasmodic neuroses afford a further argument in the same direction."

I would add to this statement, from my own observation, that the lesion is due to hyperemia of the affected centers. I believe this to be the condition in writer's cramp also, when induced by progressive muscular atrophy, neuritis of the ulnar or median nerve, or of the radial, but simply with other nerve centers implicated; not involved in the simple expression of the disease. Compression of any of these nerves by a tumor, of course alters the diagnosis. Galvanism appears to have given the most successful results in this disease, and I have for years held that galvanism expels excess of blood from the nerve centers, and can give some strong proofs of such action.

The pathology of paralysis agitans demonstrates no serious changes in central nerve cells, but in one case in an advanced stage, which I treated by cold over the spinal cord, the result while under treatment was much beyond my anticipation. The tremors of the muscles became conspicuous by their absence, and

the patient recovered very fair powers of locomotion, but relapsed, through lack of perseverance in treatment. I believe that many of these cases may be benefited, the progress checked, and in some cases a cure may follow, from the use of the spinal ice bag, and frequent inhalations of oxygen, to excite and stimulate the general nutrition.

Chorea is recognized by two very prominent symptoms; constant restlessness while awake, and an inability to perform precise voluntary movements. The disease appears to be akin to rheumatism, as in fatal cases the mitral valve invariably presents vegetations upon it similar to those found in rheumatism. There is great mental excitability in these patients, amounting at times to mania; the body is cold, and the circulation feeble. The exciting causes of chorea are many, but the most frequent one appears to be nervous shock, and the lesion that is usually found in fatal cases lies in the corpora striata, so that it has at times been called a "delirium of the sensori-motor ganglia." I believe this delirium to be due to hyperemia of these centers, and Dr. I. Richmond Barse, of Malden, Mass., has successfully treated a number of cases of this disease by cold over the spine alone, relieving the hyperemia of the centers, and restoring a good circulation throughout the body; for in these cases, the general circulation is poor, and nutrition feeble.

If the body chills easily, or there is a tendency to cold extremities, the nutrition of the whole organism is always of a low type, while through this very vaso-motor contraction the blood is forced in excess into the internal organs, and the central nervous system, causing the unduly excited condition of the brain and spinal cord.

In one case reported by Fagge, the post mortem disclosed "recent congestion of the whole spinal cord, as well as of the sensori-motor ganglia," which from my own point of view of the causes of the disease, is precisely what may be expected.

Fowler's solution of arsenic has been found an efficient remedy in the treatment of the disease, and I believe the cause of its usefulness lies in the fact that arsenic makes active all molecular processes, increasing thereby the general nutrition, and thus withdrawing the excess of blood from

the congested centers. But cold over the spine combined with the use of oxygen, will accomplish this result much more rapidly; as well as more effectively prevent future attacks of this relapsing disorder.

Tetany is an intermittent "tonic" spasm of the muscles, usually of the extremities, though other sets of muscles may be involved. The spasms last from fifteen minutes to two or three hours; it is noted in children under the name of trismus neonatorum, and I believe that the same conditions of the central nerve cells are present as in the other spasmodic neuroses, and that they are amenable to the treatment advocated.

Lockhart Clarke says in the "Med. Chir. Transactions, 1865": "The primary affection of the cord (in tetanus) is a hypremic and morbid state" of the blood vessels, due either to direct extension along the injured nerves (a neuritis migrans) or to reflex action excited upon the spinal vessels from the periphery." The late Dr. John Chapman, of Paris, successfully treated some cases of tetanus by the use of the spinal ice bag.

I consider hydrophobia a disease of nervous reflex irritation, due to tearing of the peripheral nerves, and either the absence of a poison, or of its effect upon the lacerated nerves, and through them upon the central nervous system.

The proper administration and combination of oxygen by inhalation, is absolutely necessary to obtain from its use successful results. It must never be used alone, pure, as it will irritate sensitive mucous membranes, and it is of too dense specific gravity for absorption by the capillaries. It must be combined with a gas

of lighter specific gravity than itself, in order to be quickly and readily taken up by the pulmonary blood vessels. The combination which has been found most efficient is that of pure oxygen, two parts; one part of nitrous monoxide, and one per cent. of ozone to keep the oxygen fresh, when compressed in cylinders. This preparation is of the greatest service in many diseases, on account of its primary action upon the heart alone, but when we consider that it will also expand the arteries, and make the circulation very active, increasing assimilation, and metabolic change, besides destroying deleterious and waste matters in the blood; the advantages of its use as a general tonic, is easily understood. It is very easily administered by cylinder, as the gas is turned on by a stop cock, such as is used in the ordinary water faucet, and all we have to do is after strong expiration to place the tube in the mouth, compress the nostrils, turn the stop cock and inhale as deeply as possible, holding the inhalation as long as is agreeable.

In chronic forms of disease, two inhalations, with an interval of two minutes between them, before each meal, are sufficient to induce the full tonic effects of the gas.

Hence the indications for treatment in the spasmodic neuroses are to withdraw the excess of blood from the congested sympathetic and spinal centers, and at the same time to use those measures either medical or mechanical, which will induce an active general circulation, and thus a good nutrition of the whole body. These ends may be best obtained by the methods advocated.

HOW TO HANDLE CANNED FRUIT.

Open a can of peaches, apricots, cherries or other fruit—for all fruit is acidulous—let it stand for some time and the fruit acids and the tin are ready to do their work of poisoning. A chemical knowledge that tells just how the dangerous compound is created is unnecessary to an avoidance of the peril. The rule to follow is never to make lemonade or other acidulated drinks in a tin bucket nor allow them to stand in a vessel of tin, and in the case of canned fruits or fish immediately upon opening the can turn the

contents out upon an earthenware plate, or into a dish made of earthenware or glass. Fruits in hermetically sealed cans, if properly prepared, generate no poison. As soon as opened the action of the acid on the tin, with the aid of the atmosphere, begins, and in a short time the result is a deadly poison. This brief treatment of the question should be remembered by every one and its instructions followed. The general press also should aid in disseminating this simple knowledge.—*Fruit Grower.*

NERVOUS DISEASES IN MIXED SCHOOLS.

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The health of girls arriving at the age of puberty in mixed schools is a point in the hygiene of school life to which sufficient attention has not been given, yet one of more than passing importance.

In their early years girls are as active as and have more endurance than boys. At eight or nine, in rough and tumble sports, the girls can tire out the boys; they take as much active exercise. They are usually quicker in their studies. When they reach eleven or twelve in the mixed school a nervous element enters which with many of them is a source of great disturbance. They are associated with boys of an age when their passions are rampant and ill concealed. Often this association stimulates the functions of the girls and approach of the new state is hastened by this excitement, menstruation coming on prematurely and excitement at periods becoming for the same reasons, more intense.

With this new condition their sentiments and feelings are changed, their behavior, and especially their exercise, is different. They no longer romp on the play ground, but must look demurely on the ball games in which they have no part but to applaud.

There is a want of physical exertion and consequent fatigue to lessen the nervous excitement, and they suffer from it.

It is my experience from some years of observation of pupils of the high school, that menstruation at eleven or twelve is common. This was not formerly the case. The boys are less forward and have the exercise and excitement of their games, and studies are easy for them if they choose to apply; the girls are ambitious to excel, but must study at a disadvantage and study longer and harder than the boys. Their dress and efforts to maintain a certain standard of propriety trouble them, matters which the boys give little thought. At this early age puberty finds the system immature and less able to bear the strain than when a few years older. Under cer-

tain circumstances passions may be aroused that effect the mind, and the effort of repression, not always successful, is a great strain. At fourteen or fifteen the struggle is not nearly so great, since the body is better prepared.

To those older this mixed school life brings fewer, but still too many, of its disadvantages. The lessons of the girl at or between periods are the same as those of the robust boy. Add to this the sudden growth usually, at this period, stretching up instead of growth laterally. The boys as a rule is later in growth. The girl shoots up a weed in the shade, having length without strength, isolated often like the plant. Is it a wonder that many of the girls break down, and show all the varied symptoms of fainting fits, hysterical attacks, indigestion, anemia, chlorosis and neurasthenia?

Few women can do a man's work, especially during the child-bearing period. During menstruation they should, if possible, rest, mentally and physically. To these school girls no time is given for relaxation. Menstruation is often a time of distress or is apt to become so from this attempt to keep up unvarying work. The child does not realize the consequences and unfortunately the mothers seldom inform them. Many weaknesses and displacements may be traced back to this school life. Women are successful students in the universities and professional schools, but they have approached more nearly to maturity and have passed the excitable age. Not all of them succeed—a portion break down. There is a survival of the fittest even here, although they are a select number from all the population, and are the stronger ones to begin with.

It is very evident that much present and future trouble to girls and women begins in the high schools and that the evil is increasing. Neurasthenia, hysteria and even insanity is more common than in years ago. I see every year more nervous women and more female diseases, chorea

and hysteria, than in several years altogether in my early practice. Nervous diseases have largely increased.

A generation ago girls of the better class approaching puberty were sent to separate schools under the direction of women. They did not go into mixed companies, and were not allowed male associates. Thus to a great extent they avoided excitement during these critical years. Girls of the poorer class were taken out of school about this period. True, they were not always secure at home, but home life and school life are different. Now the superiority of the high school keeps all classes there until they go to higher institutions or finish their education. The atmosphere is morbid—a strain to keep in the procession, and maintain an artificial propriety, an air of the mature world, at the tender age.

The question is often asked, are nervous diseases increasing? I think there is no doubt of it, and that uterine disease is also increasing. Why was it that in the days of our fathers gynecologists were almost unknown, at least, gynecology was never thought of as a profession? It did not happen because these diseases were neglected or overlooked. There were very few of them—they did not exist. The present excess is from the manners and habits of modern life; from idleness and reading highly-spiced literature; from dissipation and a relaxation of morals, conditions directly and reflexly affecting school life.

Incidentally, there is too much freedom of society for young girls—children's parties, dances, unrestrained intercourse of young and old, which a generation ago was not allowed. The girls should be sent to girls' schools from ten to fourteen or sixteen, and even before that be made to lead a more circumspect life than is now the rule. They should have an intelligent woman over them, a woman who has knowledge of physiology and tact enough to direct them into habits, studies and exercises conforming to their condition. Trashy literature should be prohibited, studies should be graded to the state of health, and rest provided when their periods come on. It is difficult to teach children the consequence or results of irregularities, and also impolitic.

A French prince was being taught his

catechism. "What does it mean, not to commit adultery?" he asked. The priest, at a loss how to explain, said: "It means that you shall not put your hand into hot water." A day or two afterwards the prince rushed into his tutor's room, shaking his hand, saying in an excited tone: "I have committed adultery. I have committed adultery."

If this separation of the sexes could take place for a few years when puberty is approaching and for a year or two after, there would be much less nervous and uterine disease, with all their attendant ills and annoyances. The boys might be also benefited, but in the nature of things they are not so much affected as girls. The medical profession should give attention to this subject, and impress its importance on the people and on educators. There are a majority of women teachers, but they give little attention to this subject, and expect the same amount of work or more from girls of this age as from the boys. Superintendents, if they have knowledge of these things, are restrained by delicacy from calling attention to them. But even with supervision and knowledge, no great amount of the bad results could be avoided in the mixed schools.

The Physician's Holiday.

There is a timely word about holidays. Every medical man, if possible, should have an out-door sport of some kind; golf and cycling are good, but perhaps the best is fly fishing. It takes one usually into a beautiful country, the exercise is gentle and varied, the interest absorbing, and it is better for the jaded practitioner than scampering half over Europe in a hurry in a second-class railway carriage in charge of a party of tourists. Much of the above is what judicious medical advisers are constantly telling their patients; but it is not amiss that somebody should tell it to the medical advisers themselves. The doctor is apt to have less attention paid him, whether he is sick or well, than anyone else.—*Boston Medical and Surgical Journal*.

Dr. Geo. W. Burleigh, *Modern Medicine*, October, 1897, describes a new pathogenic, pigment-producing bacillus obtained from a pig-pen.

CURRENT LITERATURE CONDENSED.**Failures of Midwives in Asepsis.¹**

The gravest mistakes of midwives are failing to secure cleanliness of person and surroundings of patient, failure in subjective cleanliness, use of improper lubricants, and making unnecessary internal examinations.

Many who employ midwives consider it absurd to use clean bed clothing, as they think it will soon be soiled in the progress of the labor. They have also a fear of fresh air and of bathing because of the danger of taking cold. A midwife finds it much easier to put up with her surroundings than to improve them, even if she has an idea of the importance of cleanliness. She also lacks the authority of the physician, and it is well to re-enforce her in this direction by specific instruction.

Have the patient prepare beforehand a piece of white oilcloth one and a half yards square, and at least six clean sheets or cloths, thoroughly boiled and washed. All should be put together with the baby-clothes in a clean drawer and not handled with dirty hands. At the beginning of labor remove all bedding from the bed, cover the mattress with the oilcloth, and put over it only the clean sheets and the cloth for pads. Under no circumstances use old blankets or cotton comforters or dirty skirts as pads. Have the patient take a tub or sponge bath with soap and water, put on a clean night-dress and give her an enema. Do not let her touch the clean bed with dirty or everyday clothes.

Before each internal examination wash the outside genitals thoroughly with soap and the antiseptic solution which is used for disinfecting the hands, but do not give a vaginal douche either before or after labor. If there be a purulent discharge or if the vulva look sore, call in a physician. For these conditions are dangerous and apt to cause fever in the mother or sickness in the child. When the afterbirth comes away remove the sheets and pads, wash the patient with the antiseptic solution, wash and wipe off the oilcloth, and spread over it a clean sheet and clean cloths for

pads as before. For a napkin for the patient use only absolutely clean cloths, and do not fasten them tightly against her. Afterward change the sheets and pads as often as necessary, and wash the patient every time with clean soap and warm water.

The midwife should be instructed to wear light-colored wash dresses and large white aprons. Before making an internal examination the hands should be carefully disinfected by washing with soap and water as hot as can be borne for ten minutes, then carefully clean the nails with a steel nail-cleaner, and wash another minute in soap and hot water. After this they are to be scrubbed for three minutes in a 1 to 1000 sublimate solution or a one-per-cent. solution of lysol or a three per cent. carbolic acid.

Perhaps the most frequent source of infection is the lubricant employed for the examining hand: Vaseline, even if carbolyzed, often contains living germs. The importance of this matter is shown in the experience of Weichardt, who reduced a mortality of from five to six per cent. to nothing by a substitution of carbolyzed vaselin in collapsible tubes instead of the ordinary containers. Internal examinations are to be avoided so far as possible as even under the best circumstances infection may be introduced. Experience proves that the chance of fever increases with the frequency of internal examination.

The Heart of the Athlete.²

Opinions vary as to the safety which women may indulge in violent exercises in view of the possible injury to the pelvic organs; and also concerning the possible harm to prostatic parts which may befall men in cycling. So far as the heart is concerned, however, there has been but one opinion, namely, that the heart accustomed to a quiet life may be dangerously and permanently crippled by excessive strain in these sports. Experience in medical practice teaches that the patient with com-

¹ C. S. BACON, in the *Jour. of the Amer. Med. Association.*

² *Maryland Medical Journal*, Baltimore.

pensated heart leak or other enfeebling disease must be extremely cautious in his exercises. The demonstration of a dilatation of the healthy heart under sudden violent exhausting effort in these lines comes somewhat as a surprise. Yet there seems to be no doubt that it does occur.

A number of clinical observers in Germany, England, and elsewhere have detected by percussion and observation of the change in the point of apex beat that both ventricles of the heart dilate under these circumstances and remain dilated for a longer or shorter time after the exercise is over. In the *Deutsche Medicinische Wochenschrift*, Dr. Schott, of Bad Nauheim brings to the aid of the diagnostician the Röntgen ray, affording ocular proof of the enlargement in the dimensions of the ventricles. He shows by such photographs that the shadow image of the dilated right ventricle first returns to normal dimensions as respiration becomes natural. The bulging left ventricle, however, which may reach so far to the left that its apex beats outside the nipple, has been found still dilated eighteen minutes after cessation of effort. This shows the need of caution by all.

Chloro-Anemia in Boys.*

It is well known that chlorosis in the male sex presents but rarely that pale, waxy color special to the feminine sex as the number of red corpuscles diminish but slightly. The phenomena observed in such cases are generally those of general lassitude and anorexia or gastric disturbance. Besides the patients complain of palpitations and oppression. Consequently this affection is frequently confounded with other morbid conditions, and especially neurasthenia. Careful investigation, made by Dr. Molle, has however, proved the existence, in masculine chlorosis, of a constant phenomenon, that of venous soufflé in the femoral veins. To discover this sign he proceeds as follows:

The patient being placed in the horizontal position, the legs extended, the stethoscope is placed over the point in the inguinal region where the beating of the artery is felt. He presses hard on the instrument so as to hear the thrill-like murmur of the blood wave against the walls of the artery, and then he diminishes

slowly the pressure until the thrill disappears, and it is at this moment that venous soufflé is heard similar to that heard so frequently in the jugular veins.

Dr. Molle could never find this femoral soufflé in manifestly chlorotic girls.

A similar phenomenon can be almost always found in chlorosis of girls by placing the stethoscope directly on the eyeball. The sign is very characteristic and interesting to observe.

The Diagnostic and Therapeutic Value of "Lumbar Puncture."

From January, 1895, to the end of June, 1897, I have performed 21 "punctures" in the lumbar region, anticipating assistance in diagnosis as well as therapeutic relief. In 15 of the cases the symptomatic phenomena of meningitis basilaris tuberculosa were unmistakably marked; five were typical cases of meningitis cerebro-spinalis epidemica while one was of hydrocephalus acutus, resulting from meningitis cerebro-spinalis.

In the 15 cases of meningitis basilaris tuberculosa the puncture was performed at an early stage of the disease as well as when the cerebral tension was well advanced. In two cases puncture was only performed once; in eight cases it was performed twice on each subject; in three cases it was performed three times on each; and in two, four times on each subject.

The quantity of fluid abstracted at each individual operation varied in the early cases from 5—10 to 20 cubic centimetres = 0.1760 of an ounce to 0.7040. In older cases it ranged from 20 to 50 cubic centimetres—in one case it was as much as 115 cc. = 4.048 ounces of fluid. The total quantity from each case varied in the same degrees.

The first two cases, tapped once, gave 15 and 30 cc. respectively; the eighth, with two tappings each, gave: one 20 cc., one 25 cc., one 50 cc., two 35 cc., two 65 cc., and one case gave 75 cc. respectively. In the two cases, with four tappings, the quantity abstracted was 150 and 215 = 5.280 and 7.568 ounces.

In all the cases operated on not a single untoward symptom arose to mar the effects of the operation, but it need not be added that scrupulous care was exer-

* French Correspondence, *Medical Press*.

* PROF. E. MONT, M.D., *Med. Press*.

cised in disinfecting the surroundings and using aseptic instruments. Again, aspiration was carefully avoided and the fluid allowed to drip out gradually by gravitation. When the tension in the cerebral membranes was high the fluid rushed out with considerable force. In many of the cases the fluid obtained was of a clear, watery appearance, without any sediment, and no tubercle bacilli could be discovered by the ordinary methods of investigation.

In one case the fluid was tinged red, while the soft parts were deeply-colored red. The contents of a Pravatz syringe of this cerebro-spinal fluid were injected into the peritoneum of a guinea-pig, whose temperature rose to 38 C. = 100.4 degs. Fahr., but gradually fell in a few days to normal without any bad effect. In the course of four weeks the animal was killed, but no trace of any tuberculous affection could be discovered. This operation was performed in two different cases, with the same result.

The influence of the tapping on the disease was not constant in its effects. It may be safely averred generally that it did not markedly affect the pressure-phenomena of the disease. In several cases, after a sufficient quantity of the fluid had been withdrawn, a temporary relaxation of the contractions occurred, followed by a short period of somnolence, which disappeared after 24 hours, without leaving any notable improvement in the patient. It may not be without interest to mention a few changes that took place in the temperature after tapping, but these were not constant. In one series of the cases, the temperature ranged between 39 and 40 C. = 102, 104 degs. F., which was suddenly induced by the operation. This did not always occur in the first tapping, but would appear on the second, third, or fourth, for the first time, which was usually transitory, and would disappear within 24 hours after its first appearance.

The therapeutic results of my own experiments convince me that no permanent benefit is obtained from tapping. There is only one case that could be demonstrated as a positive success, which proportion is far too small for the magnitude of the operation. A few temporary ameliorations in the symptoms were undeniable, but these were not lasting enough

to justify such interference. As a diagnostic test the operation utterly failed in my hands, as nothing could be obtained from the fluids of animals after death to prove the presence of tuberculous bacilli, although the post-mortem of the patients in every case revealed the bacilli of meningitis tuberculosa.

In five recent cases of meningitis cerebro-spinalis epidemicae, I operated with only one success as a diagnostic aid. In this case the fluid withdrawn amounted to 10 cc., cloudy in appearance, containing pus cells and producing a capsuled cocci on cultivation. The post-mortem confirmed the diagnosis.

1. Tapping, as a diagnostic or therapeutic adjunct, is quite worthless according to my own experiments; but it must be borne in mind, that other investigators have discovered proof positive in the cerebro-spinal fluid of the tuberculous bacillus, as well as cultivation in other animals to justify the assertion that it is constantly present. My own opinion is, that a negative result does not destroy a positive clinical diagnosis.

2. In acute cases of meningitis cerebro-spinalis the cerebral fluid does contain morbid products, which if applied to animals, as Heubner has shown, may serve to verify clinical observation.

3. When the acute stage has been passed, and hydrocephalus is present, no diagnostic assistance can be obtained from the examination of the fluid.

4. As a therapeutic agent it is equally inefficacious in meningitis cerebro-spinalis and meningitis tuberculosa. I must qualify this by saying, that individual cases do improve when operated on early, often repeated, and large quantities abstracted. I recollect one in private practice of two months' standing that improved after each tapping, but ultimately died after three days' illness.

5. My operative experiments are not sufficiently large in meningitis, chronic hydrocephalus, or chronic hydrocephalus in connection with tumors, to justify a critical record of their worth.

6. Further experiments are necessary to determine the quantity of fluid to be abstracted, the interval of time that should elapse between the operations, and how far the therapeutic value, if any, can be demonstrated.

The Treatment of Penetrating Wounds of the Abdomen.^a

Vulliet, on the basis of an analysis of 335 cases of penetrating wounds of the abdomen published since 1890—that is, during the antiseptic period—77 of which were treated by the expectant method and 258 by laparotomy, has come to the following conclusions: In the presence of wounds of the abdomen, whether gunshot or caused by stabbing or cutting instruments:

1. The wound must be enlarged to establish the fact of penetration (probing is sufficient). If this is found exploratory laparotomy must be performed at once.

2. It is impossible to decide from the symptoms whether the intestine is perforated or not, slight cases being often accompanied by symptoms of peritonitis, which may be absent in a case of multiple perforations.

3. Sure signs of perforation of the intestine, such as fistula or evacuation of the bullet per rectum, are very exceptional.

4. Exploratory laparotomy is without danger.

Spontaneous healing of intestinal perforations without septic peritonitis is rare as shown by statistics, and more especially by experiments on animals.

6. By operating early the surgeon tries to prevent the occurrence of peritonitis, and does not wait for symptoms. Peritonitis once established, death is almost certain with or without operation.

7. The operation, though often long and difficult, must not be credited with the deaths due to the gravity of the lesions, and it has saved numbers who would have certainly died if left to themselves. The results of laparotomy have recently much improved.

8. If seen for the first time forty-eight hours after the infliction of the wound, and no abdominal symptoms are present, perforation of the intestine can be excluded almost certainly; if signs of peritonitis are present abdominal section and washing out give the only remaining chance of recovery. Deaths in the latter case are due to the expectant treatment and not to the operation.

9. Shock is no contraindication to operation; on the contrary, it is often caused by severe hemorrhage, and the fear of the

patient dying on the table must not preclude an operation which has saved life. In such cases stimulants and intravenous saline injections must be used freely.

10. In most cases the incision should be median and long; this makes exploration more easy and rapid. The cavity should be washed out and drained.

11. The above conclusions apply to civil life when all antiseptic precautions are possible; in war, owing to a lack of experience, the question of operation versus the expectant treatment must be considered still unsettled.

Treatment of Acute Prolapsus Ani.^a

Acute prolapsus ani occurs frequently at childbirth, but as the patient has to keep her bed irrespective of the anal trouble the condition does not assume so much importance as when the sufferer is an active man of business to whom the time and rest necessary for recovery are serious matters. A succession of these acute cases in many respects similar led me to adopt a treatment which has given encouraging results. The pathology of the condition appears to be a slipping or forcing down of the mucous membrane investing the sphincter and of the mucous membrane immediately above it. Spasm of the sphincters, impeded venous return, and edema result in the formation of an elastic and exceedingly tender, livid or purple swelling occupying either a portion of the whole of the circumference of the anal aperture.

The swelling can be returned above the sphincter without much difficulty by the finger, but in the course of a few minutes in many cases the prolapsus has recurred. The application of heat or of cold in the form of an ice compress relieves the discomfort, but does not effect a cure or materially alter the size of the swelling. Astringents, either in the form of an ointment or of suppositories, I have found to be useless. Regulation of the bowels and the recumbent position are necessary, but a week often passes before nature brings about recovery.

It is obvious that if the prolapsus could be kept up for a few hours a speedy cure might be anticipated, and this led me to employ pads and a T bandage, but it was

^a *Revue Med. de la Suisse Rom.*

^a FRANK ELVY, M.R.C.S., ENG., L.R.C.P., LOND., *Lancet*.

almost impossible to prevent the descent of a small swelling in this way owing to the awkward situation in the hollow of the buttocks. Under these circumstances, and in the absence of thrombosis, which would call for incision, I have successfully used as a pessary a full-sized Tait's cervical dilator. After replacing the prolapsus with the finger the vulcanite uterine dilator is lubricated and inserted for one inch up the rectum, and is retained in position by a collar of dentists' wax (Stent's composition) supported by cotton wool and a firmly-applied T bandage.

The pessary not only prevents a descent of the swelling while in position, but by its pressure it favors the absorption of the edema, and it empties the engorged veins; it should be inserted at night and retained until the following morning. This treatment I have found to bring about a complete cure; there has been no tendency to relapse, and the patient has been able to rise and resume his occupation without discomfort. Olive-shaped pewter pessaries have been used for this purpose, but they are dependent for their position and retention upon the action of the sphincters which cannot be relied upon in these cases. In the chronic condition of prolapsus ani arising from atony of the levator and sphincter ani muscles much benefit cannot be expected from treatment by pessary.

The following case was the first one treated by me in this way. June 22, 1897, a man complained that for two days he had been in pain from a swelling which he took to be a hemorrhoid. On examination a tense, bluish, semi-lunar swelling was found occupying the right margin of the anus, the mucous membrane being continuous with the skin at the outer circumference. The patient stated that he had pushed up the swelling repeatedly, but that it always returned in a few minutes. This I found to be the case. I then gave him a full-sized Tait's dilator $2\frac{1}{4}$ in. long, and $\frac{3}{4}$ in. in greatest diameter, and conical in shape, for which a collar was made as described above so as to grasp the pessary thus improvised at one inch from its point and prevent it from slipping entirely into the bowel. The patient was directed to return the prolapse when in bed, and immediately to insert the pessary well lubricated and supported by a T

bandage; he was also strongly advised to remain in bed on the following day until seen by me. Next morning, however, I received a note to the effect that he felt quite recovered, and I heard afterwards that the pessary was worn until 4 A. M., when it slipped out, but the prolapse did not show any tendency to return, and has not done so up to the present time.

Sarcoma of Undescended Testicle Removed by Abdominal Section.*

The patient was under my care for about ten days before his admission to the hospital. He was suffering from a feverish attack, probably due to chill, and had also some edema of the right leg. On looking for a cause of the latter symptom I found an abdominal tumor filling the right iliac region extending beyond the middle line. It was hard, smooth, and freely moveable. The patient was admitted to the hospital April 8, 1897, the temperature having fallen to normal, with a view to operation. He was in several respects an abnormal individual, the palate was cleft, both feet were clubbed, and the scrotum contained no testicles. A diagnosis of sarcoma of the retained testicle was made. April 28 I opened the abdomen by a median incision.

Having ligatured and divided an anterior omental adhesion, I attempted to deliver the tumor. The pedicle, however, being short, and the tumor lying with its long axis across that of the abdomen, it was necessary to extend the incision for two inches above the umbilicus, and as far as possible towards the pubes. The tumor was then brought out by twisting the pedicle in such a way as to bring the long axis of the tumor and the incision into line. The pedicle was ligatured and divided close to the tumor and grasped with vulsellum forceps. It was then again transfixed and tied as low down as possible, and divided between the two ligatures. The left testicle was felt, small and apparently healthy, near the inguinal ring. The wound was closed with silkworm gut sutures passed through the whole abdominal wall and no drainage-tube was used. At the end of a week half the sutures were removed and about the tenth day

* J. B. PIKE, M.R.C.S., Eng., *Lancet*.

the remainder, the edges of the somewhat large incision being firmly united.

The tumor weighed 3 lb. 6 oz. It is a very good example of an intra-abdominal retention of a right testis which has become converted into sarcoma. The growth is round celled in type, and is extremely degenerated in the center. The mesorchium in undescended testicle is slender and round. In this specimen it becomes the pedicle of the tumor, which is short, round, and thick. The pedicle appears to be invaded by growth, hence it is probable that the lymphatic glands are already affected. The digital fossa of the testis is distinct, but the globus major and minor are involved in the tumor.

The operation, of course, resembled the ordinary ovariectomy for solid tumor. The only difference and the chief difficulty lay in the nature of the pedicle. The patient has called upon me since the operation, and is at present in good health.

Spreading Gangrene Following Crush of Leg.*

C. D., aged 20, was thrown under a train, the wheel passing over left ankle.

Examination one hour after revealed comminution of lower inch and half of tibia and fracture of tip of fibula with great laceration of soft parts surrounding ankle-joint and tarsus. All tissues above seemed perfectly sound. General condition good; pulse full, regular and strong; no shock.

The limb was amputated at junction of middle and upper third of leg; long anterior and short posterior flaps being used, rubber drain inserted and wound closed with silkworm-gut. Anesthetic, chloroform. The operation lasted thirty-five minutes, and patient was put to bed in excellent condition.

Results: Pain most intense first two days after operation; enormous amount of bloody serum oozing from the first. Drain removed on second day, but oozing continued. Temperature first two days 100-102 degrees; pulse 100. Stump inspected at the end of forty-eight hours, was in apparently good condition; wound still discharging freely; slight sour odor to dressing. Third day, pulse ranged from 95 to

122; temperature 100-103 degrees; painless; leg emitted strong odor; tongue coated; breath foul. Examination revealed a patch of gangrene the size of a man's hand and as black as coal on the anterior flap; stump distended; no discharge; marked emphysematous crackling about and below knee. Stitches removed.

Diagnosis: Spreading traumatic gangrene.

Treatment: On account of septic condition patient was transferred to another ward, placed under chloroform and a secondary amputation performed, at the middle of the thigh. Tissues here seemed good. After amputation, a careful inspection of the wound surface revealed extension of the septic process above this point, manifested by a dark area of pigmentation in the areolar connective tissue on anterior and outer portion of thigh. The breadth of this area of discoloration, which could be clearly outlined, was about four inches in this region. We decided to amputate in the upper third and endeavor to clear the pigmentation area by making a long flap on the inner and posterior aspect of thigh and a simple semi-circular incision on the anterior and outer aspect. This cleared our visible line of danger by two and one-half inches.

The surface of present wound was treated with a 5 per cent. solution of carbolic acid, rinsed off by sterilized water; iodoform gauze drain inserted and wound closed with silkworm stitches.

In a few hours patient's temperature dropped to 99 degrees and pulse to 80; shortly afterward to normal, all septic symptoms disappearing. Recovery uneventful. With the exception of a small stitch-hole abscess the wound healed by first intention.

Dissection of the amputated portion of limb revealed a typical condition of gangrenous emphysema.

Comby, *Journal de Clinique*, etc., reports 64 cases of infantile gastric dilatation and 16 of contraction. The dilatation was atonic, not obstructive. We must remind our readers that the infantile stomach normally reaches as low as the umbilicus, hence accurate measurement of the contents is necessary to establish a diagnosis.

* *Railway Surgeon.*

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PHILADELPHIA, SATURDAY, DECEMBER 18, 1897.

EDITORIAL.

CONTROL OF HOSPITAL PATIENTS.

The *Lancet* relates that recently (in England) a patient was fined for leaving a hospital without permission and while still infected with typhoid fever. It is not definitely so stated, but it is obvious that the ground for such legal action must be the damage possible by exposing others to infection. In this country it is doubtful whether popular sentiment would sustain a conviction on the charge of such dissemination or infection, unless the patient was distinctly malicious in the action.

Hospital authorities frequently are embarrassed in effecting the proper care of their charges by the personal right of the patient to decide for or against his own welfare, simply because the ignorant meddling of relative or acquaintance may have as much influence over the patient's judgment as the disinterested skill of the medical attendant. About the only conditions under which hospital authorities can secure the restraint of a patient are cases of

delirium, or of patients receiving treatment while under surveillance of the police officials. So little discretion is granted to the hospital that it is with risk an unconscious or irresponsible patient is operated upon, even in an emergency, without the formal consent of his lay representatives. Even the body of a dead patient may not be "posted" for scientific verification of diagnosis, except with the consent of some relative or friend.

It is well established if the patient be a minor or *non compos mentis*—the nearest competent relative has the power to employ and to discharge a physician with the utmost freedom. However much damage may be done by a capricious exercise of this right, it is incontestable, and, moreover, is based on sound principles. That a patient should be equally free to leave a hospital is merely a corollary of this admitted right. Yet in this, as in many other relations, the best inter-

est of the greatest number requires some curtailment of individual liberty. Outside of hospital practice, the change of physicians entails no change of environment, of attendants, while removal from a hospital may be a revolution of utmost import to the progress of the case. Moreover, hospital cases, on the average, are more serious in character and more prone to involve surgical conditions than those treated in general practice, or by office specialists. Thus, both the degree and nature of the disorder predicate a radical change of quarters and of routine especially dangerous.

It would seem that a compromise could be made so as to render admission to a hospital of the nature of an enlistment, the obligation of which could not terminate short of a definite time, save for due

and sufficient cause—in fact, a legal contract. Authority to enforce judicious restraints would be to the benefit alike of patient, physician and public. We would make this qualification, however. All patients in hospitals should, without regard to their means or to their location in private room or ward, have the right to select and employ the consultants and attendants. This right is universally recognized outside of hospital practice, but is generally denied to hospital patients, whether supported at their own expense or by general charity. This fact arouses hostility whenever a patient's preferences for physicians are crossed and, unless in hospitals which are absolutely private in name, purpose and financial support, is also a violation of the rights of the general profession.

CORRESPONDENCE.

USE OF THE FORCEPS.

TO THE EDITOR:—In your September number, page 335, I notice some remarks under caption, "When Shall We Use the Forceps?" which somewhat surprise me. In section 4 it says, "In the second stage * * * * * passenger."

What other condition can be supposed to exist, under the circumstances described, than Inertia uteri. I venture to think delivery by means of forceps, in such a case, would conduce to post partum hemorrhage. Why not wait for uterine pains to return after a rest, promoted possibly by an opiate, or upon stimulation by suitable drugs, if not by friction over the fundus, or cold application

to the same? It does not seem to me that forceps are needed.

In section 5, on the contrary, there being apparently ample uterine action, I see no reason why there should be any valid objection to the application of forceps for the purpose of accelerating delivery, without waiting for two hours, or any other specified period.

In fine, I would exactly reverse the dicta laid down in the two instances as cited.

ALBERT B. LYMAN, M. D.,
Baltimore, Md.

Licentiate in Midwifery of the Rotunda, Dublin.

Dr. W. F. Arnold, U. S. Navy, in *Northwestern Lancet*, expresses his belief in abortive treatment of gonorrhea. He follows Hutchinson's method, almost regardless of the stage of the disease. (1) Zinc chlorid injections, 4:1000. (2) Sandalwood oil, 1 c. c. tid. (3) Magnesii sulph., 12 G., potassii bromidi, 2 G. at night.

The custom of lifting the hat had its origin during the age of chivalry, when it was customary for knights never to appear in public except in full armor.

It became the custom, however, for a knight, upon entering an assembly of friends, to remove his helmet, signifying, "I am safe in the presence of my friends."

—Curious Questions.

ABSTRACTS.

THE FUNCTIONS OF A MEDICAL SOCIETY.*

If a man, or a society, ceases to develop or to partake of the living spirit of the age, that man, or that society, is in process of being fossilized. Now, a fossil may have a beauty, and often has an intense interest of its own. But its place is in the cabinet of a museum; not in the active world of life and change.

What are the functions of a medical society? Is it fulfilling those functions in the best possible manner? Let us review the purposes it serves at present.

1. It aims at cultivating a fraternal association of the members of the medical profession. How many petty misunderstandings, how many miserable squabbles, how many heartburnings would be avoided if those involved in them had met face to face? How many men become enemies, and remain enemies for years, on account of some careless, or it may be jesting, remark which has been officiously carried and reported by the proverbial "candid friend?" I suppose we all know the candid friend who always feels it his *duty* to tell us everything which is likely to annoy or worry us. Now, if in such a case the men concerned had met face to face, and had an explanation, how often would enmity be converted into friendship, and anger to laughter? For very often there is really "nothing in it." But, alas, men seem to prefer a written correspondence, and when *that* begins, where will it end?

In promoting the social intercourse of the members of the profession a Society is fulfilling an important function. Members must bear in mind, however, that the real fulfillment of this object lies with themselves. The society provides facilities for meeting, but the actual meetings depend on the members.

2. Societies provide facilities for the reading of papers, demonstration of cases, and the discussion of all matters of medi-

cal interest. There can be no doubt that every medical practitioner has a store of experiences which would be of immense value if communicated to his professional brethren. It is to be remembered that the work of our profession brings each member into close touch with Mother Nature—and she is always teaching, always giving lessons. She does not reserve her demonstrations for those who practise among the rich and the cultured classes, nor for the hospital physician. Wherever suffering humanity is to be found, there she is teaching, she is demonstrating. And so it comes about that the humblest medical practitioner may have a priceless opportunity afforded him of making a contribution to the common good. No doubt the busy general practitioner in a large city, and among the working classes, has to work hard for his daily bread. There is no "eight hours" day for him. For weeks he may be on the "night-shift," as well as the "day-shift," and he is poorly paid. Such a man may well excuse himself from the preparation and reading of scientific papers before the medical societies. He is thankful for a quiet evening by his own fireside, and for a night of undisturbed sleep. But the society invites him to give, in an informal and conversational way, any interesting or unusual phenomena which may have presented themselves to him, and to give any thoughts or suggestions which may have occurred to him in connection therewith; or to ask the members of the society for explanation or aid. Let every member of the profession remember that he has the responsibility of an *observer* as well as a *practitioner* and that he is morally bound to give the profession the results of his experience, for the benefit of suffering humanity.

In meeting with "country practitioners" I have been struck with the close observation and sound common sense of these men. Think of their position!

* JAMES W. ALLAN, M.B. Glasgow, in *Glasgow Med. Jour.*

They have to face everything—medicine, surgery, midwifery, and *all the specialties*. Long journeys in cold and wet—desperate and unexpected cases in out of the way places—no opportunities for a “consultation”—no physical help, no moral support. Single-handed they fight the battle, showing in many cases a readiness of resource, and a courage and self-reliance which remind one of a soldier when placed in a “tight place.” And some of these men are well posted up in medical literature.

And reference to the general practitioner leads me to say a word regarding *specialists*. Let me be clearly understood. There is a *legitimate* specialism. In large centers it is a matter of great advantage to the public and the profession that certain men should devote themselves to the diagnosis and treatment of certain diseases, such as those of the eye and the throat. Those who so devote themselves acquire a dexterity in manipulation, and are provided with an armamentarium, which give them a great advantage and confer very decided benefits on those who are submitted to their care. And when such men have had a thorough general training in medicine and surgery, and a subsequent prolonged experience of general practice, their position is perfectly justifiable and legitimate. They have come to occupy their position by a process of exclusion. Beginning with a thorough practical study of the whole field of disease, they finally devote themselves to that class of disease in which they have acquired a special interest, and for the treatment of which they have developed a special aptitude. Such an one in a large center occupies a well recognized position, and his services in difficult cases, especially those demanding operative dexterity or special instruments, are alike welcomed by the profession and the public.

But when we see young members of the profession “skipping” the absolutely essential training of the “general practitioner” (which is regarded by them as a sort of drudgery), and immediately after graduation setting up as specialists in this, that, and t’other thing, it makes one smile—sadly. A man cannot know the diseases of the eye or diseases of the throat unless he has honestly studied, ob-

served, and treated the whole register of “the ills which flesh is heir to.” Special organic diseases often have, generally have, their explanation in a constitutional affection. And so it comes about that the young graduate who forthwith sets up as a specialist may be less reliable, less helpful, than the old jog-trot family physician who knows by heart the whole gamut of human misery, and at once recognizes the sign manual of disease.

This tendency to belittle the general practitioner, to regard his work as “drudgery” which should be avoided by those who can afford to do so, is a mistake. Some of the brightest stars of our profession have been general practitioners, and most of those who subsequently attained to high eminence in special walks began their careers as general practitioners. And by such men many of the most brilliant advances of medicine have been made.

The division into physician and surgeon has many conveniences, and, indeed, in a large city with a consultant class it is evidently a sort of necessity. But it is a great evil if physician and surgeon lose touch with each other in their work. After all, both are the humble servants of Mother Nature, and she does not trouble herself to give sign or warning of the line of demarcation which separates their respective fields of action. It therefore follows that if these fellow-workers do not keep in touch, the patient suffers; and that is, of all things, the thing to be avoided. Surgery has in these later days advanced by such leaps and bounds that it would be hard to put a limit to the possibilities of her triumphant advance. Cases that would a few years ago have been regarded as utterly beyond legitimate interference are now operated on with brilliant success. This lays a heavy responsibility on the physician and the general practitioner. Cases come under their observation and treatment which may pass on to an unnecessary fatal termination if they do not invoke the aid of their brother, the surgeon. And the point to be particularly attended to is this, we must call him in while there is a chance for him to be of service. It is no use appealing to the surgeon when the patient is *in articulo mortis*; that is a mockery and a grievous bitter error. It behoves us, then, to keep

in touch with the surgeon and his work, so that we may know what he can do, and also learn to apprehend early the indications for calling him to our aid. It may be that false alarms will be raised occasionally; better fifty false alarms than one fatal delay. But in order to do our duty in this matter we must, as already said, keep in touch with the surgeon—hear him report his cases, take an interest in what he is doing, and rejoice with him in his triumphs.

The healing art is a complete round of the circle, encompassing and trying to obliterate, or at least narrow, the area of human misery. Our petty artificial classifications and distinctions are, after all, mere matters of convenience—aids to the division and perfection of labors in a common cause.

Is it not one of the functions of a medical society to try to advance medicine, to assist, in however humble a way, to an extension of the powers of the beneficent healing art? No doubt every paper which is read, and every discussion which takes place, is tending in this direction. But I would suggest that we might do something more definite. It is a good thing to aim at something, to try to work in a given line. Such efforts are more likely to give a satisfactory result than desultory efforts. A society should take up, say, in the first place, therapeutics, or a branch of therapeutics. Let a committee be appointed to deal with the matter. There is among many members of the profession a scepticism with regard to the value of drugs. The *vis medicatrix naturæ* is regarded as the sole healer, and our attempts at treatment as but bungling efforts to help that force.

We see surgery do to demonstration things which baffle the *vis medicatrix naturæ*, and so rescue suffering mortals from disease and death. Why should not medicine do the same? Nay, do we not know that in some specific diseases (such as syphilis and malarial fever) we have drugs which do destroy or retard the morbid processes, and so cure, or at least relieve, the sufferer?

With such facts before us, is it not evident that our attitude should be one, not of "scepticism" or apathetic "expectancy," but of eager and honest research and investigation.

When a remedy is announced, or called in question, let the members of the society take the pains to keep a record of the results of the use of this drug in their practice, and send such records to the "committee on therapeutics," and let the committee, in turn, tabulate, or otherwise reduce this mass of evidence to a form in which it may be available for publication, or, at least, for future reference and guidance.

A man may have only one or two cases in his practice in which a given drug is called for, and his very limited experience may be of little value, or even misleading. But when we come to deal with a large number of cases and a wider experience, the results obtained may possess a high value.

Gentlemen, our profession is one that brings us into close contact with all the grades and phases of human life, and the best doctor, *cæteris paribus*, is the man who knows most about humanity.

We are interested—vitaly interested—in all that pertains to the great problems of human life, and if we wish to do the greatest possible good by advice, prevention, and cure, we shall endeavor to arm ourselves by learning all we can regarding the ways of our fellow-creatures. Especially does this hold good regarding the occupations of our patients. It is really part of our duty to make ourselves familiar with the nature of the labors of those who consult us with regard to their health. To be ignorant on this subject lessens our power to grasp the etiology of many cases, and deprives us of the means to advise our patients for the best. Every day we are asked by patients if they are able to resume work, and sometimes the question is whether they will ever be able for their trade again, or will require to adopt some other occupation? The importance of knowing something about the trade in question is here self-evident. And there is another aspect of this matter. It is of consequence that the doctor and the patient should be in sympathy. When a man feels that his medical adviser understands something of his daily life, that he knows the nature of the difficulties and hardships he has to contend with, he is more likely to regard that adviser as a friend, and so confide in him more fully than he would otherwise be likely to do.

DIAGNOSIS OF INFANTILE DISEASES.*

A proper and careful diagnosis in the case of infantile diseases is the most important section of the principles and practice of medicine. It is here where the successful future of the young physician lies; also the well-being and strength of the future generation. By a little timely interference in the right direction, while the physical forces are very susceptible to any correction, either by some medicinal or mechanical means, some grave pathologic condition or abnormal development may be averted that otherwise would follow us to the border of the unknown.

The importance of this subject has already begun to arouse the minds of many thinkers among the laity as well as the profession. France has contemplated making a law regulating government appointments as to importance of position according to number of children in family. The object of this is, growth of a future generation. If this is an important question for legislation, it is doubly an important question for the medical profession to improve all means at their command for a better diagnosis of disease found in infancy—not only all diseases common to adult life, but many scarcely known after the period of childhood is passed. Children not only suffer in like manner the same diseases met with in our adult patients, but develop symptoms that are alone peculiar to their age, and seldom, if ever, met with in the same disease with a patient of mature years.

The majority of symptoms at our command by which we form our judgments of the pathologic conditions are objective, thereby leaving us to our perception and better judgment without the aid of any subjective symptoms, easily procured in the adult. We must be able to form a correct diagnosis under much more difficult circumstances than in the patient of mature years. It is not reasonable to suppose, because some individual has successfully battled the storms of upwards of three score and ten, that they are better qualified to care for this fragile mechanism, laboring under the weight of some pathologic burden, than the physician

who has made the tiny life a study from its time of conception down to its period of independent life and fully understands the physiologic functions of the delicate organs with which he must deal in treating these abnormal conditions. The more we depend upon good common sense, observation and experience, with the knowledge and experience previously obtained, the greater will be the reward of our efforts.

The successful physician cannot diagnose his case and formulate his treatment from his books alone. He must be able to read his patient like an open book, ready at any time to meet different temperaments and a wide variation in susceptibility, all of which have a tendency to increase the difficulty of a correct diagnosis. We begin to see the importance of this department of medicine when we realize that the majority of sickness is with the young; and that according to statistic investigation fifty-three per cent. of all deaths recorded occur at two years and under, and that twenty-six per cent. occur under six months of age. This fact of itself would lead one to the only conclusion possible, and that it requires skill and untiring study to better enable us to properly diagnose and care for these delicate organisms that labor unceasingly to attain a full and complete development. This will lead us to one important point in our subject, namely, the question of nutrition—whether proper or not.

Then the first object for our consideration is: What is the proper nourishment required in this particular case, and does the child receive what nature demands to maintain a perfect physiologic function of the different organs and tissues? If the demand is satisfied we then, in the same manner, examine into its care, hygienic surrounding, etc. If we still find the requirements are fulfilled we must expect now to meet the exciting cause of the functional disturbance in some organ or organs or the body. For the purpose of being better prepared to locate the cause we will endeavor to point out a few landmarks that we soon learn to recognize by their faithful efforts in pointing out the

* *The Physician and Surgeon.*

direction we are so anxiously searching for.

The cutaneous surface of an infant being very susceptible to nervous and other influences is very quick to attract our attention and show by its general appearance where we may look for the difficulty. For example, if there is a livid appearance of the skin we may look for a lack in the functional activity of the respiratory organs or malformation of the heart or some of the larger blood vessels. If the lividity is induced by exertion and the respiration remains normal then we at once look for a malformation of one of the principal parts of the circulatory system. A transient circumscribed congestion of the face, ears or forehead indicates cerebral congestion. In the cold stage of intermittent fever in infancy the appearance of the surface is a pallor or lividity with the goose-skin appearance while in the adult we get the distinct rigor.

There are other diagnostic points in connection with the general condition of the surface, but we will pass on to some of the principal local manifestations. The different conditions of the voice each have their significance in a formation of a correct diagnosis. A sharp, piercing cry with head retracted and fixed, extremities flexed, muscular spasms partial or complete, are sure signs of a cerebro-spinal disease. A hoarse, harsh or abrupt cry in connection with a sitting posture points clearly to some disease of the throat or respiratory organs. Then, again, the low moaning and plaintive cry is clearly indicative of some intestinal disorder of a grave nature.

The respiratory movements are also of diagnostic value. In cerebral disease the number of respirations per minute are diminished while the diseases of the lungs increase in accordance with the extent of the tissues involved. An abrupt termination of the inspiratory effort followed by an expiratory moan is indicative of pleuritis or pneumonitis in the acute stage. The temperature and pulse rate are not of as much diagnostic value in a general way as in the adult, but at the same time may be misleading to the attending physician.

The pulse rate, also the temperature, may be elevated temporarily by a sudden surprise or excitement and even during the process of an examination by the

physician, especially if a stethoscope or some other instrument is brought to the notice of the little patient. This sudden change would lead to an error in our diagnosis if it was not for as sudden a decline of both after a short period of rest. Pain in the head, lasting only a few days may be caused by an acute cold involving the frontal sinuses, an acute febrile condition or an acute inflammation of some organ of the body. If it is a protracted pain, and possibly intermittent at times, it is not generally neuralgic, as is often the case in adults, but is due to some organic disease of the brain or meninges.

Inflammation of the abdominal organs in the adult produces pain according to the severity of the disease, while in children pain may be entirely absent. If present it is in no degree equal to the amount of the disease. A constant pain in the chest or abdomen lasting over a period of several weeks is a good indication of caries of the vertebræ. Pain in the leg, especially on the inside of the knee, is a symptom of hip-joint disease. These are neuralgic pains reflected from the point of irritation over the nerve to its point of distribution. The different reflex phenomena are all produced by the same nervous mechanism in a similar manner.

This then is a physiologic or natural law. Natural laws do not change, unless it is by some modifying influence, thus we become accustomed to look for a certain cause as a result of a certain reflex condition. All other things being equal. This is the foundation upon which we base our means of diagnosis in diseases of infancy. Every child possesses a nervous system with an anatomic structure and physiologic functions identical with that of other children; so by observation we may classify different nervous phenomena as being the result of certain causes with a correctness that may be depended upon much easier than in the adult where the nervous system has become deranged in its perfection of functional activity.

Keller, *British Medical Journal*, is one of those who now dispense with ligation of the umbilical cord, as unnatural, tending to cause secondary hemorrhage from inflamed tissues, and as dangerous from raising pressure in the right ventricle.

PROFESSORS.*

"I want a professor," cries the patient, and the ordinary every-day doctor who has no title must obey and call in consultation "Herr Professor." Of course, the patient does not know how professors are created; he does not know that any half-dozen "scrubs" can start a medical school and dub themselves professors; he can have no knowledge of medical politics as they really are, and therefore he insists on having a professor.

To the patient a professor means one who by years of study and experience has made himself so proficient in his special line that his fellow practitioners have deemed him worthy of appointment as a teacher and adviser. True, often a man has served a long apprenticeship as instructor, assistant, demonstrator, adjunct professor, etc., before he attains to the title of professor; but, too often, it is the man with the most "pull" who "gets there," the man who can obtain the best endowments for the college who is created professor over and above the faithful quiz-masters, privatdocents and clinical instructors.

About every large medical school is clustered a small army of assistants waiting for promotion, lobbying like ordinary politicians whenever a vacancy occurs, and as servile to those above them as a fourth-rate postmaster to his Senator.

What is there in the title of professor, that makes it so much to be desired?

It cannot be altogether honor, since neither wisdom nor great deeds are necessary to attain to it; the unworthy are as often made recipients of this "honor" as the worthy. It is not the salary usually connected with the office, since we know that many professors go so far as to endow their own chairs, and many others are at considerable outlay in keeping up their positions, and some have actually bought their professorships. We fear that quite a number are moved to compete for a professorship because indirectly there is money in it. A professor can command larger fees, because the layman thinks he has superior knowledge, and for the same

reason those who can afford it prefer to visit the professors.

Certainly this cannot apply to the teachers in such subjects as chemistry, pathology, anatomy and physiology, and most often there is some salary connected with these positions to compensate the incumbent. Indeed, in some schools the professors of so-called "practical" branches forego their own salaries for the sake of supporting these professorships. There was a time when medical colleges had only six or seven professors in their faculty; to-day the average is twenty-five. In one large Eastern city 7 per cent. of the medical profession have professorships in the colleges, and a great many more occupy positions as instructors and demonstrators.

But any one can become a professor of any subject providing he has the proper amount of influence. If no vacancy exists a new chair is created for his benefit. It does not matter whether he can teach or not; that is a minor consideration. All he needs to do is to compile a text-book, tell the students to buy it, and require daily recitations from this book. A book is very easily compiled; buy a few German and French books, translate them, or ask others to run over two or three late English and American books, get plenty of illustrations, change a word here and there and the book is complete. If the publisher own a medical journal, favorable reviews and plenty of advertising finish the job and the title of professor helps to sell the compound.

The publishers have not been slow to perceive this source of revenue, and by concentrating in one volume the products of many professors they produce a "text-book" which must be sold in many schools. No matter what the quality of the material, the profits are larger in this way, and the risk is nothing, for the student must buy this syndicate text-book *volens*.

It is not always the men who compile books and occupy professorships who are the most learned or best trained physicians; and it is the great mistake of the medical

* Editorial, *Jour. A. M. A.*

profession that they put too much trust and faith in the words of men who possess such titles because they possess them. The character and standard of the school where he is professor should be taken into account. The ordinary medical man is too ready to advise his patient to go to some professor, instead of consulting with well-balanced fellow practitioners.

In every city are earnest, studious and efficient medical men who do excellent work, and yet are but little known to the world at large because they do not *advertise*. Advertise is the word. They do not hang about the college waiting for a stray case, they are not given to writing about wonderful cures obtained from strange remedies and reading reviews of other people's work before societies. They are not to be found in dispensaries, misunderstanding the poor patients who go there to receive relief, and because they do not do these things they are not invited to fill college chairs. But they are

known to their patients, of whom they frequently possess more than many so-called professors. They are the men who keep alive the ethical spirit of medicine. They keep abreast of the times, even if they are silent. They are doing the heavy work, and the results they obtain, often amidst most unfavorable circumstances, are amazing. A time is coming when men who are prominent in the profession will not covet the title of professor, a time perhaps when the teaching of medicine will be a specialty in itself, and not merely a dodge to acquire practice.

When no medical school shall be founded until there is need for it, and when all will put themselves on a scientific basis and look about them for teachers, for men who are qualified to instruct, the title of professor may have a real meaning, which at present it too often lacks. Let the general practitioner call the specialist to his aid because he is a specialist, and not because he is a professor.

FUTURE DEVELOPMENT OF MIND.*

Upon the view here set forth, the human mind at present is not formed, but forming; is not completed, but in process of construction. By slow and dubious steps taken in darkness our remote ancestors wearily climbed to simple consciousness. After another immense interval they searched self-consciousness. But that cannot be the end—the cosmic process cannot stop there—cannot, indeed, stop anywhere. Evolution, as far as we can see, has always gone on, is going on to-day, and will always go on. Our old mental faculties are some of them fading out, others advancing toward greater perfection, and alongside of them new ones are springing up, some of which will, without doubt, be of overshadowing importance in the future. So-called telepathy and clairvoyance seem to be specimens of such nascent faculties. I place in the same class the phenomena of what is often named spiritualism. Whether any given faculty, such as one of those now alluded to shall grow, become common and finally universal in the race, or wither and disap-

pear, will depend upon the general laws of natural selection, and upon whether the possession of the nascent faculty is advantageous or not to the individual and to the race.

But of infinitely more importance than telepathy and so-called spiritualism (no matter what explanation we give of these, or what their future is destined to be) is the final fact to be here touched upon. This is that, superimposed upon self-consciousness, as is that faculty upon simple consciousness, a third and higher form of consciousness is at present making its appearance in our race. This higher form of consciousness when it appears occurs, as it must, at the full maturity of the individual, at about the age of thirty-five, but almost always between the ages of thirty and forty. There have been occasional cases of it for the last two thousand years, and it is becoming more and more common. In fact, in all respects, as far as observed, it obeys the laws to which every nascent faculty is subject. Many more or less perfect examples of this new faculty exist in the world to-day, and it

* R. M. BUCK, M.D., of British Medical Association.

has been my privilege to know personally, and to have had the opportunity of studying, several men and women who have possessed it. In the course of a few more millenniums there should be born from the present human race a higher type of man possessing this higher consciousness. This new race, as it may well be called, would occupy, as toward us, a position

such as that occupied by us toward the simple conscious *alalus homo*. The advent of this higher, better, and happier race would amply justify the long agony of its birth through the countless ages of our past. And it is the first article of my belief, some of the grounds of which I have endeavored to lay before you, that a race is in course of evolution.

THE PROGRESS OF LARYNGOLOGY.*

Although scarce twenty years have passed since the treatment of such important diseases as those of the nose, throat, and ear was relegated to quacks and charlatans, still this subject has been taken hold of by earnest men, so that at present there are many workers in this field in all portion sof the civilized globe.

Although the nose has such an important function in preparing for respiration the air—the *sine qua non* of human existence—it is comparatively recently that physiologic functions were well understood. We can all remember the time when a student would pass his course at a medical college without ever having seen the interior of the nostrils or inspected the larynx or the ear, and this subject is even now a *terra incognita* to a large majority of practitioners of the present day. This is largely attributable to the fact that the medical colleges have heretofore given so little attention to this subject. But a few years ago, the number of colleges in whose curriculum the subject of diseases of the nose, throat, and ear was considered was comparatively few; and where instructions were given on this subject, it was usually done in such a manner as to indicate that it was of secondary importance to other branches.

The majority of prominent colleges now not only give earnest attention to the consideration of diseases of the nose, throat, and ear, but have established chairs for special instruction in these diseases; and the time is not far distant when the college which does not give proper attention to this branch of medicine must be relegated to those whose methods and advantages have fallen behind the modern standard.

* W. SCHEPPENRELL, A.M., M.D., in the *Laryngoscope*.

During the past year, two important additions have been made to methods: the *X-rays* of Roentgen, and the *direct laryngoscope* or *autoscope* of Kirstein. In spite of the very conservative statements of the discoverers of the X-rays, the sanguine enthusiasm of the masses has over-rated the value of their application in medicine and surgery, and it is only natural that the return swing of the pendulum should create a certain amount of discouragement; but a careful analysis of the work that has been accomplished, and the scientific investigations that are still being made, give reason for hope that the X-rays will be of marked benefit. Foreign bodies in the esophagus have been easily and accurately located by this method of the diagnosis of the diseases of the accessory sinuses. Thus far the results obtained in this direction have not been very encouraging, this being due principally to the fact that pathologic conditions of these sinuses are usually limited to the soft tissues, which are transparent to the X-rays, and that they are surrounded by an osseous wall which offers a much higher resistance to the passage of the rays.

The subject of direct laryngoscopy is also of great interest; and while, unfortunately, it cannot be applied to the examination of all cases, in fact, not even to a large proportion of them, still it is certain that where it can be applied it offers the greatest advantage, and it is certainly a valuable addition to our methods. It is of special importance in the application of surgery to the larynx; and in a method of treatment of laryngeal tuberculosis, it has been of the greatest service in facilitating the treatment in those cases in which it could be applied.

URATE DISEASE.*

In these days of bacteriology the consideration of any disease that does not hold out the hope of a casual bacillus is indeed dull and unattractive. And yet gout running through the whole gamut of its possibilities from its earliest manifestations of so-called biliousness, to a degenerated kidney, or a fatally diseased heart, is probably only second to tuberculosis in its scope and power to produce human misery.

According to Sir Alfred Garrod, "Galen, who lived about the latter half of the second century, was of opinion that gout was caused by some unnatural accumulation of matters in the part affected. These matters were supposed to consist of phlegm, bile, blood, or of a mixture of these fluids, and chalk stones were considered to be formed by their concretion or solidification." Haig, writing in 1894, remarks on the above paragraph: "Our knowledge now at the end of the nineteenth century might be expressed in almost the same words if we substitute 'uric acid' for 'phlegm, bile and blood.'" It may be said of Haig's writings, that they are only a little less vague than those of Galen when he writes "uric acid" when he really means the uric acid compounds of the urates. As to the causes which antedate these unnatural accumulations in the part affected, there does not seem to have been any more satisfactory explanation offered than that of Cullen, who, in 1783, declared gout to be of nervous origin. This theory has been elaborated by modern writers, and especially by Dyce Duckworth, who believed that true gout has its beginnings in a primary neurosis.

The chief question which arises is the differentiation of this disease from that known as lithemia, uricacidemia, or American gout, as demonstrated by DaCosta. In the light of our present knowledge of uricacidemia can only be another form of gout, or another manifestation of that disease, of which it has heretofore been believed, that it generally resulted in gout, or gout in its earliest stages. The symptoms of lithemia are

so nearly those of irregular, or atypical gout that they alone should have led us to this conclusion. Yet apparently, this is not the opinion of two of the most recent writers on this subject. Ewart makes a distinction between what he calls goutiness and lithemia. He defines goutiness: "There is a general gout which pathologic anatomy fails to recognize. How soon one may succeed in identifying the ill-defined cause depends upon their personal experience. A patient may not develop 'local gout' until he has passed through an ordeal of symptoms which for a time may have afforded equal scope for the shrewdness of observers or for their scepticism. * * * The subjects of goutiness are liable to the same tendency to acidity and to lithemia as sufferers from gout. In goutiness, however, the articular symptoms are not to the front, and there is not necessarily always a uratic factor to treat.

"It cannot be denied that between lithemia, as understood by Murchison, and various gouty states, a close kinship exists. Heaviness, depression, torpor, giddiness, headache, insomnia, gastro-intestinal disturbances, varicose veins, hemorrhoids, etc., which belong to lithemia, occur also in many cases of gout. The lithuria of hepatic engorgements, or of lithemia, has its analogy in the lithiasis or gravel, so familiar to us in the gouty or their descendants. The association with gout is, however, seldom immediate. Commonly gout and gravel occur in separate subjects as an alternating inheritance; or if in the clinical history of the same individual, at wide intervals of time. We need not here point out the differences in the urology of the lithemic lithuria and of gouty lithiasis: the excessive pigmentation of the urine in the one, its relative pallor in the other. This difference alone would suggest caution in assimilating too closely the two pathologic processes. We should be careful not to limit the etiology of gout, much less its pathology, to the lithemic connection. Often enough the hepatic irregularities, which correspond in their clinical manifestations to the 'lithemic symptoms' of Murchison, are con-

* T. D. MYERS, M.D., *Phila. Jour. of Med. and Sci.*

spicuously absent. At the same time, the various errors in diet and in hygiene, which sometimes bring about lithemia, also leads up to gout; but here again we perceive alternation rather than identity."

Here, then, are two arguments adduced against the unity of gout and lithemia. The first, based on the difference in color of the urine in the two conditions, and the second, rests on the fact that outbreaks of gout are not always preceded by symptoms of lithemia. In regard to the first argument, it may be said that the color of the urine is not, by any means, constant in either condition. In the opinion of observers in this country, the prevailing color in both conditions is identical. Tyson, writing on the urology of gout, says: "It is scanty, high-colored, and of high specific gravity." In speaking of the urine in lithemia, he says: "It is scanty, high-colored, and of high specific gravity."

In regard to the second argument, the views of E. Pfeiffer and of Ebstein may again be referred to, to show that in many instances attacks of local gout are caused by the resolution of urates which have already been deposited, in which case the blood must be alkaline, or rather less saturated with urates, than at the time when the deposits took place, and a "local gout" occurs without the symptoms of lithemia. Tyson treats the two conditions as separate diseases, and thinks that lithemia "differs from gout chiefly in the absence of joint deposits and joint inflammation."

Accepting as a fact that lithemia and gout are only different phases of the same diseases, it becomes apparent that the real subjects for study, are in the first place, the causes which produce an excess of urates in the blood, and in the second place, the nature of these urates, and their effects upon the tissues. We really know nothing of the primary lesion, the first break in the chain of normal metabolism which makes an excess of urates possible.

According to Sir William Roberts: "It has been shown that in normal urine uric acid always exists as a quadri-urate; and that in animals which eliminate their nitrogen as uric acid, like birds and serpents, the urinary secretion is composed entirely of the same combination. Proof has also been furnished that in media containing alkaline carbonates—such as

the serum of the blood and derivatives, lymph and synovia—uric acid passes into solution in the first instance as a quadri-urate. From these considerations it may be inferred that in the normal state uric acid is primarily taken up in the system as quadri-urate; that it circulates in the blood as quadri-urate, and that it is finally voided with the urine as a quadri-urate. In perfect health the elimination of the quadri-urate proceeds with sufficient speed and completeness to prevent any undue detention or accumulation of it in the blood.

"But in the gouty state this tranquil process is interrupted, either from defective action of the kidneys, or from excessive introduction of urates into the circulation, and the quadri-urates lingers unduly in the blood, and accumulates therein. The detained quadri-urate, circulating in a medium which is rich in sodium carbonate, gradually takes up an additional atom of base, and is thereby transformed into bi-urate. This transformation alters the physiological problem. The uric acid, or rather a portion of it, circulates no longer as the more soluble and presumably easily secreted quadri-urate, but as bi-urate, which is less soluble and probably also—either for that reason or because it is a compound foreign to the normal economy—less easy of removal by the kidneys. The bi-urate thus produced exists at first in the hydrated or gelatinous modification. But with the lapse of time and increasing accumulation it passes on into the almost insoluble anhydrous or crystalline condition; and then precipitation of it becomes imminent, or actually takes place."

The fact that the bi-urate of sodium forms the predominating element in gouty deposits has led to much careful study of the solubility of this salt. Sir William Roberts gives elaborate tables showing the solubility of sodium bi-urate in various media such as distilled water, blood-serum, synovia, and normal salt solution. He excludes the albuminous elements in blood serum, lymph, and synovia from all part in their solvent qualities, and regards these fluids as practically alike in their saline qualities. The following table of highest solvents of sodium bi-urate is condensed from the extended tables of Roberts.

Table of Highest Solvents of Sodium Bi-urate, condensed from the Extended Tables of Sir William Roberts.

Solvent.	Sodium bi-urate dissolved.
Water—(dist.)—1.00 per 1,000 (temp. 100° F)	
Water containing:—	
0.1 % Sod. Bicarb.	0.50 “
0.1 “ Sod. Chlorid.	0.45 “
0.1 “ Sod. Sulph.	
(cryst.)	0.55 “
0.1 “ Sod. Sulph.	
(cryst.)	0.55 “
0.1 “ Sod. Salicylate.	0.65 “
0.1 “ Sod. Phosph.	
(crys.)	0.70 “
0.7 “ Potass Bi-carb.	1.02 “
0.5 “ Potass. Chlorid.	1.10 “
0.1 “ Potass. Phosphate.	1.01 “
0.1 “ Cal. Sulph.	0.65 “
0.5 “ Cal. Chlorid.	0.27 “
0.1 “ Magnesium Sulph. (cryst.)	0.90 “
0.1 “ Magnesium Chlorid.	0.85 “
0.1 “ Ammonia Chlorid.	0.85 “
Blood serum,	1 part in 10,000 “
Standard Solvent,	
(normal salt sol	1 part in 10,000 “

Any increase of the proportion of the saline constituents in the solvents given in the table is followed by a decrease in the solvent power of the solvent. “The degree of the alkalinescence of the medium, or its neutrality had not the slightest influence on the result. The carbonate and phosphate, which have an alkaline reaction, acted exactly in the same way as the chlorid and sulphate, which have a neutral reaction.” In this table the solvent power of blood-serum, synovia, and normal-salt solution are given at one part in ten thousand, at a temperature of one hundred degrees Fahrenheit. This would indeed appear to be a very small quantity.

Nevertheless, my own observation leads me to believe that these figures as stated by Roberts, are probably correct. Estimating the total amount of blood in the body of a man of average size, at nine pounds, and supposing this blood to be saturated with the sodium bi-urate to its complete solvent capacity, the whole amount of the bi-urate salt would not exceed seven grains. The rapidity with which large deposits are absorbed, in some cases of urate disease, would indicate that

the solvent power of the blood must be largely increased by some force not included in the experiments, from the results of which Roberts built up his tables. It is apparent also, from the results of Roberts' experiments, that the key to the solubility of the bi-urate lies in the possibility of finding how the gelatinous hydrous amorphous salt is kept in this condition, and prevented from assuming the anhydrous crystalline form while in the circulation.

In trying to solve this problem it occurred to me that many years ago du Bois-Reymond pointed out the fact that muscle and nerve currents from the leg of a frog led through a mixture of potassium iodid and starch, caused the iodine to deposit at the positive pole, and colored the starch blue.

In my experiments I used a one milliamper galvanic current, and I was able to produce a clear solution in distilled water of 4 parts in 1000; and in the normal-salt solution, 2 parts in 1000; at a temperature at no time exceeding 70 degrees Fahrenheit. Thus it will be seen that with a current only half as strong as that found in the leg of a frog, it is possible to make distilled water and the normal-salt solution take up more of the bi-urate than was done in any experiments heretofore made. I was greatly surprised to find that electrolysis converted the crystalline anhydrous sodium bi-urate into a soft, paste-like amorphous condition; and that by adding acetic acid to the amorphous bi-urate thus formed, under the microscope crystals of uric acid appeared to grow out of the amorphous masses and the amorphous form disappeared entirely.

Here, then, is one way in which the bi-urate can be made at will to assume a soft paste-like amorphous hydrous form; but our knowledge of nerve-currents in the living body does not, as yet warrant us in even assuming that this is the means by which the bi-urate is kept in solution in the blood.

Owing to the large preponderance of the sodium bi-urate in the deposits of gout, our knowledge of the urates in general is based almost exclusively on the studies of that salt; and while it is probable that all other uric acid compounds are formed and behave in like manner, we have

no positive knowledge that such is in reality the case. It is true that some calcium urate has been found in gouty deposits, and the so-called cockle-burr urate of ammonium has been found in the urine of gouty subjects—although these have been described as a form of the urate of sodium.

It would seem to be an important point to determine if the salts of uric acid with ammonium are formed in the body above the kidneys and enter the general circulation, or not, for if we consider the peculiar form of these so-called cockle-burr urates, and if the mechanical theory of the action of the urates on the tissues is accepted, even in part, the cockle-burr shape of the urate of ammonium crystals would indicate that they were particularly adapted for producing irritation in their movements through the vessels and after lodgment in the tissues. Moreover, from their size, being larger than the ordinary crystals of urate of sodium, their irritative action would occur in tissue supplied with capillaries and lymph-channels of larger caliber than would be caused by sodium urate.

The passage of a cockle-burr urate through a tubule of the kidney, or through the capillary system of the choroid coat of the eye-ball, would be particularly destructive to the epithelium of such a tubule, or of such a capillary vessel. This is not a matter of possibilities only; I have myself actually seen a cornea ruined for all refractive purposes by a deposit in the lymph-channels, long before any other symptoms of gout made themselves manifest.

Again, in progressive myopia, there is a loss of the integrity of the sclerotic coat of the eye-ball coupled with a degeneration of the chorio-capillaris of the choroid; hitherto, no satisfactory explanation of the causes of these changes have been given, but as they always occur in lithemic subjects, is it illogical to connect one condition with the other? I am particularly interested in this subject because in five cases of chronic granular disease of the eye-lids which have come under my observation, I have found concretions deeply imbedded in the tissues of the lids, which resembled these cockle-burr urates very closely under the microscope, and what is more, I have found this form of

urate in the urine of three of these cases, in the other two I could not find them. All of these cases had pronounced family histories of gout, and all of them are lithemic, or gouty at the present time. These cases presented a distinctly different character from that of lithiasis resulting from ordinary deposits of urate or sodium, the inflammatory action being much more marked in its appearance, and the tissue changes seeming to be much more rapid. In my experience deposits of the urate of sodium in the eye-lids do not cause a high grade of inflammatory reaction. I have now under my care a patient who had a continuous plate of this salt deposited under the epithelium of the conjunctiva of both lower eye-lids, extending from one angle to the other. The deposit was removed and under the microscope it presented all of the appearances of the crystals of the sodium bi-urate. Notwithstanding the amount of this deposit it seemed to cause but little irritation, and the patient complained more of the weight and stiffness of the lids than of any other difficulty.

It is the clogging of the nutritive channels, and the pressure exercised on the tissue elements, and the impeding of the nutritive functions caused by the presence of the bi-urate deposit which brings about slow degenerative changes, which are as much to be deplored as any outbreak of gouty inflammation could possibly be. Indeed, it is a question if in view of the widespread prevalence of urate disease, the presence of urates in the fine lymph-channels of the cornea in early life, may not account for the deviation in curvature which constitutes so large a proportion of astigmatism, by interference with nutrition of the part. It is now fairly well settled that urate disease is the exciting cause of inflammation in joint structures, that it causes disturbances in the circulatory and nervous systems, that it causes errors of digestion, and of respiration, and that all sorts of neuralgias are caused by it. That the tissues of the eye-ball and of the lids, owing to their resemblance to joint structures, are particularly affected by it, and that glaucoma, keratitis, cyclitis, scleritis, retinitis, choroiditis, and cataract may all result from it, and that chronic inflammation of the eye-lids is not infrequently one of its consequences.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, December 8, 1897.

The President, DR. JAMES TYSON, in the chair.

DR. JAMES K. YOUNG read a paper upon
Accurate Measurements for Scoliosis.
(See page 709.)

DISCUSSION.

DR. R. H. AUGUSTUS WILSON said that unfortunately the accuracy of the machines spoken of would appear to condemn them, because their great accuracy is used to measure an exceedingly inaccurate and constantly varying subject. In the Weigel machine the metal that passes over the patient, if she is at all sensitive, and often most patients are, so tickles her back that she will unconsciously move, bringing into prominence one side or the other and completely altering the record. Another element of possible error is the personal one. It is necessary for someone to know how to make use of the machine to rather definitely locate the spinous processes. Occasionally the bars will touch a point where there are no spinous processes, and make a deeper impression than is warranted by the location of the spine. Besides, it is almost impossible to keep the patient quiet and the angle varies so that it is impossible to secure accuracy. Mr. Bernard Roth says that the Weigel machine is too accurate for an inaccurate subject and he has gone back to the old tin table, because he found that it gave sufficiently accurate records to carry an analysis of existing conditions from time to time.

Anyone who has taken posture must have noticed movement of the spine from the respiratory act, and it is impossible to guard against this. If the chest is at all movable it will so disturb the spinous processes as to make the record valueless. As yet there is no machine that will so elaborately measure as to do away with the inaccuracy due to these movements. Photography is at the present time the least likely to false interpretation of any of the methods employed. It will delineate lines that are not shown by the machine.

DR. BERTHA LEWIS said that according to the method of taking measurements adopted by Mr. Bernard Roth, of London, the patient stands in front of the physician in an

erect posture. The trunk is then flexed, the arms hanging, the hands placed lightly on the knees, which are kept extended. This position relaxes the posterior scapular muscles and carries the lower angles of the scapula as far away from the spinal column as possible, and throws the osseous deformity of the ribs into prominence. Now the left-hand end of a pliable tin tape is placed at the lower angle of the left scapula, while the tape is carefully molded close to the ribs across the spine to the lower angle of the right scapula. With a pencil the metal tape is marked opposite the dorsal spine. Next the tape is carefully lifted upon a sheet of paper, previously prepared, and a tracing is made from the inner surface of the tape upon the paper. A second measurement should be taken about the loins midway between the last ribs and the iliac crests, opposite the third lumbar vertebra. This gives a complete record of primary and compensatory curves. These very simple and quickly taken records are sufficiently accurate to show the progress of cases. They faithfully show the alterations in the bony structures, and also the growth in muscle-masses. No system of measurements will accurately record the restoration of function of both spine and muscle that follows, when cases of rotary lateral curvature are treated by medical exercises under the careful personal supervision of the physician.

DR. YOUNG said that he considered the Bradford machine the very best machine, and he advised it for taking the rotation of vertebrae. The diagrams are made with the body in the prone position, and the clavicles firmly fixed on the bed. This is the only method in which the body can be firmly fixed. It is true that the machines are too accurate for ordinary purposes, but for ordinary office work, in the most particular cases resort must be had to the most particular methods and it is a good rule to use the most accurate methods to be obtained in the most difficult cases.

In regard to photography, the picture-screen must be placed in the same position, the same lens must be used and everything done in the same manner each time. The methods of Roth include the use of a simple lead strip. In office work Dr. Young is in the habit of taking free-hand drawings with notes upon the case. If anything more thorough is desired, resort is had to the other methods.

DR. LAWRENCE F. FLICK read a paper upon

The Treatment of Tuberculosis with Inunctions of Europhen,
and exhibited some patients.

(See page 710.)

DISCUSSION.

DR. M B. HARTZELL pointed out that europhen has been largely used in the treatment of cutaneous affections. Not a single case of lupus vulgaris has been reported in which the treatment has been followed by cure, nor have any of the so-called scrofulodermita been cured by this means alone. From personal observation Dr. Hartzell believed that the use of large doses of iodine is likely to be followed by disastrous results in this class of cases. In the case of a young woman who had a large ulcer, scrofulous in character, to whom the iodids were administered in large doses rapid breaking down and bad results followed closely. If then in tuberculosis of the skin, where the conditions are so favorable for the application of the remedy, no decided curative effects have been obtained, one may doubt greatly the wisdom of administering internally this remedy in the treatment of pulmonary tuberculosis.

DR. HENRY BEATES, JR., asked whether in the cases reported the good results obtained were to be attributed to the inunctions of europhen or to the use of creosote and other remedial agents.

DR. L. J. HAMMOND asked whether there is a known quantity of iodine contained in a definite amount of europhen, and if so whether it would not be possible to use the iodine itself by inunction rather than the compound?

DR. H. A. HARE said that if the method recommended by Dr. Flick is employed to any extent definite information should be forthcoming as to the class of cases in which it is most useful. What Dr. Hartzell has said in regard to iodine compounds rendering certain scrofulous or tuberculous conditions much worse is worthy of attention. It can readily be understood that in cases of incipient tuberculosis when the condition chiefly depends upon a catarrhal process, the administration of the iodine could be very beneficial indeed, because the administration of iodine compounds is useful for any catarrhal condition. But when tissue is breaking down rapidly in a tuberculous or other process in which necrotic change is taking place, the iodids must be employed very cautiously or not at all. The employment of iodine compounds might be dangerous treatment to institute in all cases of tuberculosis, particularly in cases in which cavity-formation is marked or in which there is an excessive catarrhal process in addition to cavity-formation. In bronchorrhea the iodids cause

tremendous outpouring into the bronchial tubes and do harm rather than good.

DR. FLICK maintained the belief that the europhen or the iodoform was the most important factor in the treatment of the cases reported. He has long been convinced that iodine is the best remedy for the treatment of tuberculosis and better results are obtained from inunctions of europhen or of iodoform or any other iodine compound that gives off its iodine readily, because of the constant effect. Dr. Flick held that the use of iodoform-inunctions is probably attended with the setting free of iodine in the blood, which produces the beneficial effects. It is the iodine and not the creosote that gives the results, first, because most of the cases reported were treated for quite awhile by other men with the same treatment, except the europhen. The creosote was used, the tonics were used, almost everything available was used except the europhen. Secondly, hospital cases subjected to treatment with inunctions and tonics and food exclusively also did well.

In advanced cases the creosote is an important factor. The farther the case is advanced the more freely is the creosote to be used. Iodine itself would not give as good result as europhen or iodoform because it is the nascent iodine in the blood from the decomposition of the europhen or iodoform that gives the results. It is a question whether this effect can be secured in any other way than by inunction of an iodine compound. Besides the constant effect from these inunctions the gradual absorption and decomposition of iodoform and europhen must count for something.

The more incipient the case, the better the results. Some of the cases that recovered had relapses and died of military tuberculosis subsequently. In ten or twelve cases seen in the last few years, in which no softening could be determined to exist all of the patients were restored to health, for the time being at least, as far as could be determined by physical signs and subjective symptoms. Hemorrhagic cases will probably do better than non-hemorrhagic.

DR. JAMES TYSON expressed the opinion that Dr. Flick had stated his case modestly and fairly. Great moderation and caution are called for in deciding therapeutic questions of this kind, but the treatment commends itself for trial in view of the great importance of the subject. Dr. Tyson attempted to use the iodoform in this way several years ago, but a great obstacle to its use was the extremely offensive odor of the drug. The absence of such odor in the case of europhen removes this difficulty. Of course a large number of cases must be treated before any decision is arrived at. But the difficulty is no greater in deciding as to the merits of inunctions of europhen in connection with codliver-oil and creosote than in deciding between the merits of codliver-oil and creosote used separately. By

the aid of a large number of cases and a general survey of the ground many are convinced that treatment with codliver-oil and creosote is more useful than treatment with codliver-oil alone. In like manner treatment with inunctions of euophen, cod-oil, and creosote may prove more useful than treatment with cod-oil and creosote only.

DR. HOBART A. HARE read a paper entitled **The Influence of Digitalis on the Heart-Muscle when Administered for a Long Period of Time, with a Microscopic Study and Report by Dr. W. M. L. Coplin.**

(See page 737.)

DISCUSSION.

DR. W. M. L. COPLIN said that all of the hearts were treated as nearly alike as possible. An attempt was made to study the subepithelial nerve-fibers lying beneath the endocardium, but unsuccessfully.

DR. HENRY BEATES, JR., said that for a number of years many instances of the various types of cardiac and circulatory disease have been subjected by him to the continuous influence of digitalis in the form of either a definitely determined derivative possessing therapeutic power of a known and unvarying strength, or in a correspondingly established pharmaceutical preparation. In many instances, more than seven years have elapsed, and in one, eleven, during which a derivative, representing the vaso-motor and cardiac stimulating properties of the drug, has been continuously used. In any investigation of this kind it is important to employ a preparation possessing a constant and known strength as proved by physiologic assay, for all digitalis, as indeed all *materia medica* derived from the vegetable kingdom, exclusive of assayed preparations, is useless when considered from the basis of determining accurate results, by reason of the fact that the active principles contained in any one drug vary in their percentage as well as in their solubility in the menstrua used in their preparation. The derivative employed in the clinical studies referred to is the pure German digitalin of Merck, which represents that property of digitalis, so well known for its profound stimulant action upon the cardiac muscle, pneumogastric nerve and the vaso-motor center, as well as periphery of this system. In so far as clinical observations demonstrate, under the conditions mentioned, hearts that years ago were very large, by reason of compensatory hypertrophy, and that occupied a still greater area in consequence of the complicating dilatation, are to-day, as proved by physical examination, diminished as to area of dulness. In a very large number of cases of this type, in which either assayed digitalis, or the derivative

manufactured by Merck, has been continuously administered for years in active doses, there is no evidence of hypertrophy having been produced. In no instance has the intermission of the use of the remedy occupied a longer time than two months.

The results of Dr. Hare's investigations demonstrate a degree of hypertrophy under conditions of normality. Whatever the conditions in the porcine heart, in the heart of man the internal and external longitudinal layers on the left side constitute a well-developed muscular wall, while on the right they are simply sparingly distributed. The same nutritional influence having to operate upon two elements, one of which may be represented by two and the other by four, it is very evident that an especial overgrowth is locally more apparent than real. Clinically, under abnormal conditions, the continuous exhibition of digitalis for years, in large doses, and of its preparations, the exact unit of power of which is known, has demonstrated not hypertrophic consequences, but on the contrary, diminution of the abnormally large area. In the consequences of organic valvular lesions, and those of senility, the drug can, and should be used continuously for a long period of time, varying from months to years as the disease requires. The doses must be sufficient to restore the balance of lost equilibrium to the circulation.

Dr. Beates referred to the case of a water-logged man, with a mitral regurgitant lesion, who, after such treatment, was soon enabled to leave his habitually occupied invalid chair and resume the duties of a night-watchman, exposed to all weathers, for five additional years. He lived upon from quarter to half grain doses of the digitalin, and during the sixth year finally succumbed, as he would have done many years before but for the bold use of the remedy.

DR. HARE said that he was so intent on getting the hearts intact out of the pigs that he forgot about the kidneys until the hearts were removed.

DR. HENRY EMERSON WETHERILL exhibited a number of medical instruments of precision, and demonstrated the results of some original work.

Repair of a Deformed Nose by a Flap from the Cheek.

DR. JOHN B. ROBERTS exhibited a case of plastic work on the nose. The patient, a woman, had lost the right ala of the nose from about the margin of the nasal bone as a result of applications of caustic to remove a supposed carcinoma. Dr. Tunis thought it would be well to graft a piece of the finger when he saw the case a year ago and therefore he made a portion of the side of her nose from her finger. There was still left a notch at the side of the ala, and she had a piece put in by Dr. Roberts a few days ago, a flap being taken from her cheek

near the nose. The flap of skin from the finger is whiter than the skin of the face and nose. So far as possible the surrounding tissues, which are most likely to be similar in color and similar in texture, should be employed in plastic work. Much can be done to improve the appearance of patients with facial deformities.

DR. F. S. PEARCE said that one of the most interesting points in this case, showing the

education of the touch-sense in the finger-skin that is transplanted to the nose, is the fact that this transfer of the skin does not entirely alter original sensation-reference. On inquiry the patient states that when her finger-stump is touched she can feel the impression in her nose and *vice versa*. Testing for this proves that she has such confused false tactile reference. Is it not a psycho-physiologic paradox?

PERISCOPE.

In Sir E. Frankland's report some very curious results of the filtration to which London water is subjected, tend to support the statements recently made by the *Hospital* as to the extreme variability of filtered water. For example, the West Middlesex, month after month supplies its customers with water of a high degree of purity, containing on one occasion only four microbes per cubic centimeter, and on another appearing to be absolutely sterile. Of what advantage, however, is this if on another occasion the number mounts up to 120, and on still another to 576 microbes per cubic centimeter? Something happened in the month of June to nearly all the filters. "Of the five companies drawing from the Thames, all except the Southwark were smitten with this microbial epidemic in June, and even the Southwark had got it on the 2d of the following month. Of the two companies drawing from the Lee, the New river alone escaped." So serious was the condition that from the tables given to show the reduction of micro-organisms by filtration alone we find that in one case 66.3 per cent. of microbes passed the filters. Lest, however, we should be tempted to cast ourselves upon providence in these matters, and think that this "microbial epidemic" was some widespread fatality that no company could escape from, it is worth while to look further into the matter, when we find that where separate filter-beds were separately examined, as we have maintained ought always to be done, a very great difference was demonstrated in their activity. While one of the Grand Junction filters was passing sixteen and another fifty-six microbes per cubic centimeter, another was passing 1,080! What this has to do with the construction of the filters and what can be done to improve them is another matter; but Sir E. Frankland seems to be on the right track when he draws attention to "the enormous advantage of fine sand in securing efficient filtration." Some companies go to the trouble of using much finer sand than others with apparently good results. "Thus: 1.8 foot of the fine sand of the New river company and 2.75 feet of that

of the West Middlesex company are respectively more than twice as efficient as four feet of the coarser material used by the Chelsea company."—*Hospital*.

Herr Broch, Berlin, says that recently thyreiodin has been used in chronic deafness, the so-called sclerosis of the aural passages, an affection the cause and nature of which were still dark. The treatment was tumbled upon by observing that when thyreiodin was given in myxedema any loss of hearing power participated in the improvement. It was the more readily taken up as all possible therapeutic methods had hitherto been without avail. He has been led by the literature of the subject to put the remedy to a test, and has treated 40 cases by thyreiodin. They were people from 18 to 47 years of age, in whom all the known methods of treatment had failed. He had used the English preparations, only using the German in two cases for the purpose of checking the effect after the course of treatment was terminated. The dose was one tablet three times a day. In one case, that of a woman who took by mistake three tablets at once, the treatment had to be stopped owing to acute thyreiodism. Also in a nervous, corpulent lady it had to be stopped on account of disagreeable by effects. He observed no effects whatever from the treatment, and believed the good reports from others depended on subjective deceptions and errors of testing the function.—*Med. Press*.

It is objected that laboratory work in medicine has become a specialty and that it should be entrusted to the specialists in medical colleges, hospitals and boards of health. So far as advanced work is concerned this is true, and it is very desirable that laboratory specialism be recognized and duly encouraged. But there is no excuse for a physician who does not prepare himself to do the work demanded in routine daily practice. It would be quite as reasonable to argue that since there are cosmopolitan specialists in surgery no practitioner should open a boil.—*Jour. A. M. A.*

TUFFIER read an important paper at the International Medical Congress at Moscow upon the surgical treatment of tubercular cavities and of gangrene of the lung. He maintained that in every case of surgical interference with the lung there were three separate factors to be borne in mind: (1) The opening of the thorax; (2) the treatment of the pleura; (3) the incision into the lung. The opening of the thorax is a comparatively simple matter—little or no trouble arises so long as the parietal and visceral layers of the pleura are adherent. But when there are no adhesions in the pleura at the place where the chest has been opened, it seems better to either look for them within the thorax or actually to make them. Tuffier makes his adhesions when it is necessary to do so by seizing the retracted lung, drawing it into the wound in the chest wall and fixing it there. This fixation, he thinks, presents many advantages, for it diminishes at once any threatening asphyxia, it lessens any anxiety which may be felt by the surgeon, and it relieves the arterial tension. So soon as the lung has been exposed the surgeon must determine the point at which he is going to incise its tissue, and although hemorrhage is the most serious accident that can happen, Tuffier finds that its occurrence is not very frequent. When the cavity has been exposed it must be explored both by touch and by sight, and the surgeon should always endeavor to ascertain whether the lesion is single or multiple before he plugs or drains it without first washing it out.

He then proceeded to consider the surgical treatment to be employed in the individual diseases to which the lung is liable, laying special stress upon the treatment of pulmonary abscess, bronchiectasis, and gangrene of the lung.—*Lancet-Clinic*.

The Physiology of Hypnotism.—

There are certain limits beyond which even the modern physiologist finds it impossible to pass, says *Hospital*, London. In some way mind is correlated with the existence of special living structure, and in some way the functional attributes of nervous tissues are transmuted in the crucible of consciousness into the various moods of sensation, thought and volition; but the rationale of such transformation is as inexplicable as that of the origin of matter or the commencement of life. Nevertheless, it does seem clear that the presence of the mental state may be taken as a sign of the full development of certain physiologic processes; and the very fact that in the hypnotic condition certain apparently complete "mental" manifestations may take place in the equally apparent absence of consciousness and volition, makes the study of the hypnotic condition one of great physiologic interest. The great question may broadly be put

thus: How can the fixing of attention result in such a severance of between action and volition, as we see to be the case in the hypnotic state? Professor Francis Gotch shows how greatly modern views as to the construction of the nervous system assist us in forming a mental picture of the process involved in the non-continuity of nervous tissue. There are gaps between the different neurons, and the direction in which nervous impulses flow depends largely upon the ever-varying resistance which is offered by these gaps. If we recognize that all our activities are the result of a form of reflex action, inhibited or accelerated by impulses from that portion of the nervous system which are more specially connected with the consciousness, and that the nerve processes, whence the impulses by which this inhibition is maintained, must "jump the gap," are capable of fatigue, we seem to see, in a fashion, how it is possible, as the result of strained attention, to weary out the link with consciousness, and leave the body an automaton, subject to the uncontrolled dominion of reflex action and suggestion. This explanation seems to show on the one hand how by repetition self-control may come to be the dominant factor in man's actions, and how, in another case, by the repeated abolition of the control of the higher center, such as occurs in those who are again and again subjected to hypnotic influence, it may no longer be necessary to fatigue the will by concentrated attention in order to produce the hypnotic state. By mere repetition a state may be induced in which the subject may become hypnotic on a gesture, on a look, or even on the mere casual occurrence of an event which has been usually connected with the onset of the trance.

Gibson and Turner report the case of a girl eleven months old, admitted to the hospital for diarrhea and vomiting with wasting, who had right-sided ptosis, with dilation and immobility of the pupil, and inability to turn the right eye inward. Her temperature ran an irregular course, her pulse and respiration were rapid, and she died after five days, having presented no more definite symptoms. The autopsy showed a hemorrhagic neuritis of the right third nerve, the left being nearly normal. On the left side of the brain there was a large hemorrhage, occupying the area over the middle of the Sylvian fissure, with a prolongation upwards and forwards involving the bases of the frontal gyri, especially that of the second. The centrum ovale and gray matter about the Sylvian aqueduct showed nothing abnormal. The authors regard the nerve lesion as entirely responsible for the eye palsy. No mention is made of the condition of other organs.—*Edin. Med. Jour.*

Synaptic fibers is a new term for which Ranvier is responsible, descriptive of fibres peculiar to cicatricial tissue. It has always been a matter of observation that in the progress of cicatricial union the edges of a wound, no matter how widely apart they may be separately, gradually approach each other as the process of union goes on. While the fact has been constantly referred to, the reason therefor was never explained. The histologic formation, the evolution of cicatricial tissue, has now been made the subject of critical study by Professor Ranvier in a great number of cases and a variety of wounds.

These studies were made day by day and hour by hour. He asserts that distinct from the fibrillae of the plasma and the processes of great length thrown out by the endothelial cells, there are distinct filaments uniting the cells and the fibrin filaments. These have power of contraction and thickening upon themselves like india-rubber bands. They are sometimes simple and run directly from one connective tissue fascia directly into another, but usually anastomose in their course. He found that by the contraction of these synaptic fibers attached to cells these cells may be stretched and finally detached and transported from their original situation.

"There are," he says, "three organic elements of synaptic fibres, viz.: fibrin, connective or endothelial cells, and lymphatic cells. Thus the morin, the physiologic role of which has hitherto been a mystery, appears to be an important factor in their regeneration."—*N. Prac.*

After you have put a man through your routine treatment and he fails to get well, do not tell him medical science has done all it could for him, and he would better try another climate, some health springs, etc. Such a course is mere shrinking. Conclude, rather, that your routine is not suited to all and individualize your cases. Study up each on its merits. Doubtless there are many excellent drugs which have served other physicians well, but which you have never tried because you had your regular routine. A routine has its advantages, it saves time and thought, but it is sometimes an obstruction in the path of progress.—*Med. Fortnightly.*

It has been reported that one of the hotels of Chicago has sold a physician the privilege of practicing in said hotel for a money consideration of \$500 per year for five years, the entire \$2,500 to be paid in advance. Commenting on this occurrence, the *Journal of the American Medical Association* says, editorially: "It is to be hoped that the leveling tendency of the times will not progress so far that the social standing of the hotel doctor may be placed on the same footing with that of his privileged associates, the boot-black and the cigar-vender."—*Ex.*

Recently it was chronicled in these columns that a German physician had introduced a form of rectal suppositories provided with a string and cross-bar to prevent slipping up too high. Now it is pointed out that similar suppositories were in use already at the time of Galen.—*Western Drug.*

There is no class of cases that will better repay careful nursing and treatment than children's diseases. Young protoplasm is naturally recuperative, and many lives can be saved that would otherwise be lost if the skilled physician is called to properly guide the course of disease. A lowering of the general death rate will occur as physicians become more successful in handling children's ailments. Unfortunately the pecuniary recompense that accrues to the practitioner among children is not in proper ratio to the knowledge and skill required.—*Post-Grad.*

SUTLIFFE advises tincture of veratrum viride in small and frequently repeated doses in catarrhal pneumonia in children until both pulse and respirations are lowered.

The following advertisement is running in some medical journals: "Any medical man having a case of diabetes or albuminuria under his care can learn of something very much to the advantage of himself and patient by applying to the G— Manufacturing Co." Is the intellectual and professional status of American medicine of as low an order as is here implied?—*Western Drug.*

At the "Allgemeine Ausstellung für Nahrungsmittel, Volksernährung und Armeeverpflegung" held at present in Berlin, the Schering Chemical Works were awarded a gold medal (Staats Medaille) exclusively for their method of disinfection.

NEWS AND MISCELLANY.

For vaginal irritation Dr. Bloom recommends a tampon soaked in a solution of thiol one part, and glycerol two parts.—*Polyclinic.*

Expressed in time units, the distance between Cape May, N. J., and Philadelphia, is 100 Minutes—measured by the "Century Flyer" over the route of the South Jersey Railroad.

This, and like marked reductions in time to other points, in connection with the superior modern equipment, splendid service, and capable management maintained by the railroad, easily accounts for recent great increase of travel to the health resorts along the southern coast of New Jersey.